

SBM 2016 PROCEEDINGS



SESSION ABSTRACTS

SOCIETY OF BEHAVIORAL MEDICINE

37th Annual Meeting & Scientific Sessions

Behavioral Medicine at a Crossroads: 21st Century Challenges and Solutions

March 30 – April 2, 2016 • Washington DC

SOCIETY *of* BEHAVIORAL MEDICINE

Better Health Through Behavior Change

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Better Health Through Behavior Change

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TABLE OF CONTENTS

Abstracts, Wednesday Sessions	s1
Abstracts, Thursday Sessions	s39
Abstracts, Friday Sessions	s162
Abstracts, Saturday Sessions.	s273

37th ANNUAL MEETING PROCEEDINGS

Annals of Behavioral Medicine and the Annual Meeting Proceeding Supplement are official publications of the Society of Behavioral Medicine, providing an annual review of the most recent finding in the field. Information contained in the publication is intended for the interest and convenience of Society members and meeting attendees. Statements and opinions expressed are the responsibility of the authors and do not constitute SBM policies unless so indicated. Inquires regarding subscription should be directed to the SBM National Office, 555 East Wells Street, Suite 1100, Milwaukee, WI 53202; Phone (414) 918-3156; Fax (414) 276-3349; Email: info@sbm.org; Website: www.sbm.org

March 30, 2016–April 2, 2016 · Washington DC

Wednesday March 30, 2016 9:00 AM–11:45 AM

Seminar 1 9:00 AM–11:45 AM

CLOSING THE KNOW-DO GAP IN PUBLIC HEALTH PROFESSIONAL TRAINING: THE CASE-METHOD TEACHING APPROACH

S Bryn Austin, ScD¹, Holly C. Gooding, MD, MSc²

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An ideal way to integrate new content into educational programs is through the innovative case-method approach, a state-of-the-art and highly effective teaching method that is widely used in professional training in disciplines such as law, medicine, public policy, and business. This approach offers great potential benefits for public health professional training. Case-method teaching is a discussion- and problem-solving-based teaching technique that introduces trainees to real-world scenarios through a case study. Each case is a carefully crafted story, developed from extensive background research to be evidence-based, timely, topical, and dynamic. Each case typically features a protagonist facing a critical dilemma that must be solved by trainees through teamwork in the classroom setting. This approach has been shown not only to increase learning and retention, but also to enhance communication, decision-making, teamwork, and analytical skills beyond what can be achieved through traditional didactic teaching methods.

In this seminar, attendees will work with an original case developed by the Strategic Training Initiative for the Prevention of Eating Disorders (<http://www.hsph.harvard.edu/striped/teaching-cases/>), based at the Harvard T.H. Chan School of Public Health and Boston Children's Hospital. Seminar co-leaders will introduce attendees to case-method teaching, basic techniques for writing and teaching cases in the classroom, and the unique advantages of the approach for integrating new topics and perspectives into health professional training. Then attendees will have the chance to work with an exemplar case in a simulated teaching experience. The exemplar case will incorporate content related to U.V. tanning on college campuses and negotiation skills for advancing policy changes to promote public health. Finally, attendees will critique the cases and discuss ways to adapt the approach with the goal of integrating case-method teaching methods into their own public health professional or university settings.

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Seminar 2 9:00 AM–11:45 AM

SBIR AND STTR, FEDERAL FUNDING MECHANISMS FOR IMPROVING THE REACH OF BEHAVIORAL SCIENCE

Patricia Weber, DrPH¹, James McClain, PhD², Jennifer Shieh, PhD³, Richard Bendis⁴, Fred Kron, MD⁵

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With growing interest in how the results of research are disseminated and implemented, Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grants and contracts are increasingly an avenue for the translation of scientific evidence into commercial and clinical settings. Representatives from the SBIR/STTR offices of two NIH Institutes, the National Cancer Institute (NCI) and the National Heart Lung and Blood Institute (NHLBI), will provide an overview of the goals of the SBIR and STTR programs, the application and review process and how these differ from traditional research grants. An NCI Program Director from the Division of Cancer Control and Population Sciences will discuss the importance of the SBIR/STTR grant mechanism to the field of behavioral science. An SBIR awardee will give an overview of how he translated his academic behavioral research into a successful SBIR/STTR application. Finally, a seasoned healthcare investor will provide an overview of what investors are looking for from commercial behavioral health products and platforms.

Attendees will be expected to submit a one page overview of their product idea for commercialization prior to the seminar. Attendees will get detailed feedback from the presenters. Attendees will practice giving elevator pitches (short 2 min overview of their idea and its impact) similar to what might happen at a health tech event. Attendees will then give a more detailed overview of their research-informed product idea and commercialization plan, receiving feedback from the presenters.

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Seminar 3 9:00 AM–11:45 AM

INTEGRATING BEHAVIORAL SCIENCE IN THE CLINICAL WORKFLOW AND CHANGING PATIENT-PROVIDER RELATIONSHIPS

Christine Renee. Maldonado, PhD¹, Carrie Henley, B.A.², Catherine D. Serio, Ph.D.²

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We know a great deal about what works (and what does not) in behavioral medicine. But like many fields, there is a gap between what is known and what is implemented in clinical practice and what is disseminated to the public. As both patients and providers grapple with the management of complex, chronic health conditions, there is an urgent need for information that goes beyond traditional health education and instead uses theory-based behavior change interventions in the clinical workflow. To help close the gap between theory and practice, the authors drew from the behavioral medicine literature and adopted the Sustainable Change Sequence (SCS; Elwyn, Marrin, Frosch, & White, 2014), a framework that outlines five steps that a patient needs to adopt in order to sustain health behavior change. This framework also outlines the respective evidenced-based behavior change techniques (BCTs) for each step as detailed by Abraham and Michie's (2008) taxonomy. Together, the SCS and the BCTs have been at the forefront of our content strategy and development. To support providers in targeting health information to their patients' respective behavior change step, the authors have developed a tool to assess patients' health behavior change needs. This assessment tool is linked through rich metadata to content that's been tailored to patients' specific needs. In this seminar, we will provide participants with an overview of the SCS and the underlying BCTs. We will demonstrate how a multi-disciplinary team of content developers apply the SCS and translate BCTs to produce health content that is in plain language. Participants will interact with our psychometrically-validated tool that supports providers in targeting content to their patients' behavior change needs. Using type 2 diabetes as example, we will showcase how the SCS and BCTs, our tool, and our content work in concert to support both the patient-provider relationship and patients' self-management efforts. Throughout the seminar participants will engage in discussions and activities to support their learning and adoption of similar frameworks in their organizations.

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Seminar 4 9:00 AM–11:45 AM

INTEGRATING SUBSTANCE USE SCREENING, BRIEF INTERVENTION, AND REFERRAL TO TREATMENT (SBIRT) IN HEALTH PROFESSIONS EDUCATION

Eric Goplerud, Ph.D.¹, Glenn Albright, Ph.D.², Cyrille Adam, Ed.M.³

¹NORC at the University of Chicago, Bethesda, MD; ²Baruch College, City University of New York, New York, NY; ³Kognito, New York, NY

In 2014, 27 million Americans ages 12 and over were living with a substance use disorder. Adolescent substance use is linked to a range of immediate and long-term consequences. Although studies like Monitoring the Future and National Survey on Drug Use and Health have recently shown stable or slight decline in the use of alcohol and certain drugs, alcohol remains the drug of choice, marijuana has increased, and perceptions of harm has decreased. Despite opportunities to address substance use in a range of settings, training and adoption of screening and brief intervention has been slow. Screening, Brief Intervention, and Referral to Treatment (SBIRT), a widely supported prevention/early intervention model, has been shown to be a low-cost, effective approach to addressing risky alcohol use among adults. More recently this model has been applied to prescription medication misuse, marijuana, and illicit drug use with inconsistent but encouraging results. SBIRT is endorsed by government agencies and professional associations based on promising evidence.

Currently, there is little support for SBIRT education in health professions education. NORC at the University of Chicago is funded by the Conrad N. Hilton foundation to increase education opportunities in adolescent SBIRT within associate, undergraduate and graduate social work and nursing programs. Since 2014, NORC has partnered with the Council on Social Work Education, Center for Clinical Social Work, the American Association of Colleges of Nursing and technology company Kognito to support the integration of adolescent SBIRT into required coursework.

This proposed workshop will provide an overview of SBIRT's process, rationale and evidence. Participants will engage in a discussion about the opportunities, challenges and facilitators to integrate practice-based SBIRT education. Research findings will be shared supporting the effectiveness of virtual patient simulations to help practitioners learn and practice screening and brief interventions in conversation with virtual patients, and improving knowledge, attitudes, and clinical practice around mental health and substance use. Participants will be engaged to develop a plan to implement and sustain SBIRT education, and will have the opportunity to practice and assess their SBIRT skills in two virtual patient simulations.

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Seminar 5**9:00 AM-11:45 AM****THE PATH: A NINE COMPONENT MODEL AND METHODOLOGY FOR TRAINING RESILIENCE**

Stephen Sideroff, PhD

University of California, Los Angeles, Santa Monica, CA

Presenting a model of resilience, and a self-scoring assessment tool. Stress is a significant modifier of emotional and physical symptoms and is maintained unconsciously as a distraction from emotional pain. This resistance along with a feeling of overwhelm contributes to clients' difficulty in becoming resilient. Session will identify the many aspects of client resistance to restoring autonomic balance and optimal functioning. Presenter will then introduce a nine component model of resilience along with a 40 item self-scored questionnaire that produces a resilience profile for clients, identifying their strengths and areas needing improvement. Seminar participants will have the opportunity to take the questionnaire, self-score and create their personal profile. The nine components fall into three areas: Relationship (with self, with others, and with something greater – spirituality, purpose and service), Organismic Balance and Mastery (physical, mental/cognitive, and emotional) and Process or how one engages in the world (presence, flexibility and power, defined as the ability to get things done). Each of the nine components will be described, along with exercises for their enhancement. The audience will be engaged in training each other, using these exercises, to train greater resilience along each of the nine dimensions.

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Seminar 6**9:00 AM-11:45 AM****ITERATIVE RESEARCH DESIGNS: DEVELOPING, REFINING, AND PILOT TESTING INNOVATIVE APPROACHES TO PROMOTING BEHAVIOR CHANGE**Sarah S. Jaser, PhD¹, Deborah Ellis, PhD², Nancy Petry, PhD³, Catherine Stanger, PhD⁴, Shelagh A. Mulvaney, PhD¹, Christine M. Hunter, Ph.D., ABPP⁵

¹Vanderbilt University, Nashville, TN; ²Wayne State University School of Medicine, Grosse Pointe Park, MI; ³University of CT School of Medicine, Farmington, CT; ⁴Geisel School of Medicine at Dartmouth, Hanover, NH; ⁵Division of Diabetes, Endocrinology, and Metabolic Diseases, Bethesda, MD

There is a need to develop new and better interventions to promote behavior change to address problems with adherence. Iterative research designs allow for studies to develop, refine, and pilot test innovative strategies. In this course, independently-funded investigators will share strategies for iterative research designs of behavioral interventions, with early feasibility phases informing larger trials. We draw from cognitive training (Cogmed), e-health and technology (interactive apps), positive psychology, mindfulness, and incentive-based approaches to address the same challenge: improving adherence in adolescents and young adults with type 1 diabetes. We will discuss iterative study designs, lessons learned, and tools for decision-making regarding intervention readiness for additional testing and development, including statistical approaches to evaluate small sample sizes. Topics covered in this course have wide-ranging implications for designing and testing behavioral interventions for youth with chronic diseases in particular and for the broader development of novel behavior change interventions.

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Wednesday
March 30, 2016
12:00 PM-2:45 PM

Seminar 7**12:00 PM-2:45 PM****BEYOND INFORMED CONSENT: DESIGNING IMPACTFUL ORIENTATION SESSIONS FOR RANDOMIZED TRIALS TO MAXIMIZE ENGAGEMENT & RETENTION**Danielle E. Schoffman, BA¹, Michaela Kieman, Ph.D.²

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Orientation sessions are often the first point of contact for research staff and participants and offer an important opportunity to set the tone of the research experience ahead. However, many studies do not take advantage of the time in orientation sessions to engage participants on a deep level in the research experience as well as provide participants with an understanding of the full commitment involved in enrolling. This interactive seminar will provide detailed examples that illustrate how techniques from an innovative approach were applied across a variety of research settings as well as an intensive hands-on session to assist attendees in their planning and implementation of similar techniques in their research. First, presenters will briefly describe an innovative approach to orientation sessions developed by our collaborative research team. This approach emphasizes that trial participants should be partners in the research process, that a full and clear picture of the expectations for trial participation should be presented, and that trial participants should be allowed sufficient time and space to explore ambivalence about committing to the study rather than making a decision at a single visit. Second, presenters will describe details of how the original orientation session approach has now been adapted for use in a number of research projects, including different geographic locations across the US from the Southeast to California, age groups from children to adults, health behaviors from weight loss to physical activity, and research designs from in-person groups to remotely-delivered interventions. Third, presenters will facilitate intensive small-group break-out sessions for attendees to brainstorm ways to implement the orientation session techniques in their own research as well as troubleshoot anticipated barriers to using these techniques. The small groups will share strategies and solutions with the larger group and the presenters will share some of the commonly encountered barriers to implementation experienced by PIs and research staff. Finally, the presenters will discuss future directions including suggestions for systematic measurement of the techniques presented and empirical tests of the impact of specific elements of the approach on recruitment and retention process indicators. Participants will leave prepared to implement some of the orientation session techniques discussed.

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Seminar 8**12:00 PM-2:45 PM****CENTRAL SENSITIZATION'S ROLE IN CHRONIC ILLNESS - TREATMENT OPTIONS**

Judy Embry, Ph.D.

Baylor Scott & White Health, Belton, TX

Central Sensitization has been recently conceptualized and is currently considered to be a common denominator for diverse medical conditions such as temporomandibular joint dysfunction, nonspecific low back pain, vulvar vestibulodynia, migraines, osteoarthritis, non-cardiac chest pain, migraine, irritable bowel syndrome, and many so-called "functional" disorders. The concept is not well understood by most medical providers, leading to ineffective treatment, prolonged patient disability, unnecessary testing/diagnostics, high healthcare costs, and frustrated providers, patients, and families. Fortunately, many mental health providers have skills and tools that can help alleviate some of the suffering individuals experience when central sensitization is perpetuating their medical disorders, and there is considerable support in the literature for these approaches. One of the difficulties in treating individuals with central sensitization, however, is the complexity of the phenomenon and the fact that it challenges common understandings of pain. This seminar will address the current knowledge regarding the mechanisms of central sensitization, evidenced-based treatment including psychotherapeutic approaches, and recommendations for educating patients and medical providers about this condition.

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Seminar 9**12:00 PM-2:45 PM**

SMART AND CONNECTED HEALTH ASPIRING INVESTIGATOR WORKSHOP

Wendy Nilsen, PhD

National Science Foundation, Arlington, VA

This workshop will be an informational and interactive opportunity for Smart and Connected Health (SCH) Aspiring Investigators to develop skills and address the knowledge gaps necessary to submit a successful SCH proposal. The goal of the SCH Program is to accelerate the development and use of innovative approaches that would support the much needed transformation of health and healthcare. The mission of the Smart and Connected Health program is the development of next generation health and healthcare research through high-risk, high-reward advances in the understanding of and applications in information science, computer science, behavior, cognition, sensors, robotics, bioimaging, and engineering. Realizing the promise of disruptive transformation in health and healthcare will require well-coordinated, multi-disciplinary approaches that draw from the computer and information sciences, engineering, medical, health and social behavioral sciences. The Aspiring Investigator workshop will support the development of researchers interested in submitting research to the SCH program. The workshop will accomplish this through mentorship and didactic sessions to acquaint Aspiring Investigators with the key issues associated with SCH, the joint NSF-NIH review process and the breadth of existing projects funded by the SCH program.

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Wednesday
March 30, 2016
3:15 PM-6:00 PM

Seminar 10**3:15 PM-6:00 PM**

BUILDING JUST-IN-TIME ADAPTIVE INTERVENTIONS IN MOBILE HEALTH: THE ROLE OF MICRO-RANDOMIZED TRIALS

Inbal Nahum-Shani, PhD¹, Susan Murphy, PhD², Bonnie Spring, PhD³, David E. Conroy, PhD⁴, Predrag Klasnja, PhD², Daniel Almirall, PhD⁵

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A “Just-in-Time Adaptive Intervention” (JITAI) is an emerging mobile health intervention design aiming to provide support “just-in-time”, namely whenever and wherever support is needed; via “adaptation”, namely by using ongoing information on the dynamics of an individual’s emotional, social, physical and contextual state to individualize the type and delivery timing of support. The adaptation in a JITAI is intended to ensure that the right type of support is provided whenever the person is (a) vulnerable and/or open to positive changes, and (b) receptive, namely able and willing to receive, process and utilize the support provided. In this workshop, we will introduce micro-randomized trial (MRT), a new trial design useful tool for addressing scientific questions concerning the construction of JITAIs. Specifically, we will provide an introduction to JITAIs, as well as examples of key scientific questions that need to be addressed in the development of these interventions. We will then discuss how the MRT design can be used to answer these scientific questions and clarify its key design features. Two case studies involving the design of a MRT will be used for illustration. The first concerns the development of a JITAI aiming to address states of heightened vulnerability among smokers attempting to quit. The second concerns the development of a JITAI aiming to capitalize on natural opportunities for promoting physical activity among sedentary adults. Useful data analysis methods for developing JITAIs will be discussed, as well as directions for future research. The emphasis of this seminar is on applications rather than on technical details.

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Wednesday
March 30, 2016
12:00 PM-6:00 PM

Seminar 11**12:00 PM-6:00 PM**

NIH GRANTSPERSONSHIP: OPPORTUNITIES TO FUND RESEARCH AND TRAINING

William N. Elwood, PhD¹, G. Stephane. Philogene, PhD¹, Veronica L. Irvin, PhD., MPH², Robert M. Kaplan, PhD³, Heather Orom, PhD⁴, Dawn K. Wilson, PhD⁵, Richard P. Moser, PhD⁶, Janine Simmons, M.D., PhD⁷, Michael J. Stirratt, PhD⁸, Christopher Wheldon, PhD⁶

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This seminar will provide participants with information and advice to write competitive applications for National Institutes of Health (NIH) funding. The format will include didactic presentations, guidance on summary statement interpretation, and small group mentoring sessions. NIH scientists and review officers will describe current funding opportunities, grant mechanisms, policies, procedures, and steps in the grant submission process. Current and past NIH-based fellows will share experiences on how their fellowships influenced their respective career trajectories.

There will be ample time to answer questions regarding programmatic and review issues related to the NIH funding process. In addition, experiential and small-group activities will deepen participants’ knowledge of the grant writing process and provide individually-tailored feedback. Presenters will describe the roles and interactions among various study section participants, including the NIH review officer, review group chair, and assigned reviewers.

Participants who’d like tailored advice for their projects-in-development should bring at least five paper copies of a one- to two-page synopsis of the research aims, hypotheses, and methods. Participants interested in fellowship opportunities should bring a similar number of vitae/biosketches. NIH staff and senior investigators will provide participants with detailed feedback and advice.

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Seminar 12**12:00 PM-6:00 PM****THE NUTS AND BOLTS OF BEHAVIORAL INTERVENTION DEVELOPMENT**

Sylvie Naar, PhD¹, Susan M. Czajkowski, Ph.D.², Christine M. Hunter, Ph.D., ABPP³, Yuan Ji, PhD⁴, Audrey Boruvka, PhD⁵, Inbal Nahum-Shani, PhD⁶, Frank Perna, EdD, PhD⁷, Bethany Raiff, PhD⁸, Kenneth E. Freedland, PhD⁹, Angela J. Jacques-Tiura, PhD¹

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This seminar will provide investigators who are interested in the design and preliminary testing of health-related behavioral interventions an opportunity to: (1) learn about the ORBIT model, a new framework for developing behavioral treatments for chronic diseases; (2) learn about appropriate study designs and methods for early-phase behavioral intervention research, including which methods are appropriate at each phase of the behavioral intervention development process; and (3) apply the ORBIT model and knowledge about relevant methodologies to their own behavioral treatment research. The format will include didactic presentations, question and answer sessions, and small group discussions in which participants will be provided with advice to help them design their own behavioral intervention development project. NIH and extramural behavioral scientists will describe their own experiences in designing and conducting behavioral intervention development studies, bringing these “lessons learned” to bear in advising seminar attendees on their individual projects.

Didactic presentations will provide detailed information about methodologies and study designs most applicable to the early phases of behavioral intervention design and testing (e.g., qualitative research and small-N studies, dose-finding studies, adaptive and fractional factorial designs, and pilot studies), with ample time allotted for questions and discussion. In addition, experiential and small-group activities will deepen participants’ knowledge of and skills needed for designing a behavioral intervention development program, allowing time for tailored advice and feedback. Participants will be asked to submit in advance a 1-2 page synopsis (e.g., abstract, research aims, hypotheses, proposed methods) of a behavioral intervention development project, which can be one they are considering submitting for funding, along with specific questions they may have regarding the process of behavioral intervention development. These will be discussed in small groups led by NIH staff and senior investigators, allowing participants to receive detailed feedback and advice to enhance the quality of their grant applications for designing, refining and early-phase testing of health-related behavioral interventions.

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Seminar 13**12:00 PM-6:00 PM****THE WRITING WORKSHOP: DEVELOPMENT BEHAVIORAL CHANGE RESEARCH AND PROJECTS FOR PUBLICATION**

Barbara Resnick, PHD, CRNP, FAAN,FAANP¹, Laura L. Hayman, PhD, RN, FAAN²

¹University of Maryland School of Nursing, Baltimore, MD; ²College of Nursing and Health Sciences, University of Massachusetts Boston, Boston, MA

Publication and scholarly dissemination of innovative interventions focused on changing behavior among individuals across the life span are a critical component to moving research from the lab to the bedside or real world settings. Further it is only through dissemination and implementation of new knowledge that faculty across all disciplines will be able to expose students to these innovative approaches and achieve optimal health globally. Challenges to publishing include such things as lack of sufficient skills in writing, lack of confidence, motivation, infrastructure to support scholarly activities within academic settings, mentoring and time and work load issues, among others. Mentorship, collegial relationships, positive work environments and efficient time management have all been shown to facilitate scholarship. The need for mentoring, in particular, has recently intensified due to an increasing shortage of experienced faculty in academic settings. This full day seminar will guide participants in the development of a manuscript for submission for publication via a section-by-section, hands on practical approach. The Workshop will include a series of four 50 minute sessions and time given for the participants to develop some initial outlines and sections of their manuscripts and receive feedback from presenters following each section of the Workshop. Specifically the four sections will address the components of a research based manuscript and include: I. Introduction and background; II Methods; III: Results and IV. Discussion. Powerpoints for these sections have been developed by the Workshop presenters and with input from an interdisciplinary team of journal editors. In addition we will review the submission process with participants and provide guidance for how to appropriately respond to editor/reviewer comments. Participants will also receive examples of successful and not successful sections for each section of a research based manuscript and tricks of the trade for exemplary writing. At the end of the workshop the participants will have an outline and focus and beginning draft of their manuscript and access to resources and online support for the continued development of these papers.

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Seminar 14**12:00 PM-6:00 PM****UNDERSTANDING THE PRINCIPLES AT WORK IN MIND-BODY PROGRAMMES AND INTEGRATING THOSE INTO BEHAVIOR CHANGE INTERVENTIONS**

James Carmody, PhD

University of Massachusetts Medical School, Worcester, MA

Behavioral interventions increasingly incorporate mindfulness and other mind-body modalities to support change and maintenance of health-related behaviors and better coping with the distress commonly accompanying unhealthy behaviors. These practices allow experiential recognition of the areas of experience that attention and awareness get caught, and those avoided or missed. Cultivating a capacity to recognize and hold our most difficult parts while still being available for the broader landscape of experience enables creative responding where automatic reactivity and conditioned patterns would otherwise prevail. Although often presented as unique, mind body modalities have their effects through shared psychological principles that are readily learned and adapted. This full day seminar will give participants both the theory and practice of these qualities of attending that are associated with distress and well-being and demonstrate the common ground mindfulness and other mind body programmes share with therapeutic modalities such as CBT. Understanding these parallels enables their seamless integration into behavioral change interventions that suit the needs, language and circumstances of your population. The seminar will provide experiential instruction drawn from the presenter’s own research and clinical experience as well as four decades of practice and teaching mindfulness meditation, yoga and mindful movement. There will be opportunity for dialogue, reflection and role-play in creatively adapting, presenting and teaching these principles in ways that make them meaningful and accessible for clients’ individual circumstances including awareness exercises that can be integrated into the experience of daily life. It is suitable for a range of backgrounds. Learning Objectives: Understand theoretical underpinnings of mind body modalities; Practice these principles using mindfulness and mind body exercises; Adapt what is learned to various patient circumstances.

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Seminar 15**12:00 PM-6:00 PM****USING A “DESIGN-THINKING” TO INFORM THE CONNECTED AND OPEN RESEARCH ETHICS (CORE) PROJECT: A PARTICIPATORY APPROACH**

Camille Nebeker, EdD, MS¹, Cinnamon S. Bloss, PhD²

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We have rapidly entered an era where researchers collect data ‘on-the-fly,’ in real-time and, subsequently design meaningful, personalized and adaptive health interventions. The technologies include devices/apps that enable data collection via Mobile Imaging, pervasive Sensing, Social-media and Tracking (MISST) methods. While the opportunities are fantastic, standards to guide the responsible and ethical conduct of this research are lagging behind creating challenges for Institutional Review Boards (IRBs) and researchers alike. We have identified a subset of issues that are percolating within the MISST ecosystem. Our data identified research questions and concerns across three categories: (i) informed consent, (ii) risks/benefits, and (iii) data management. These observations have prompted us to consider how to improve the ethical design and review of MISST research. This seminar will apply a Design Thinking (DT) approach to inform a dynamic, ethical learning system with a goal of increasing the effectiveness and efficiency of current research oversight practices. DT is an agile approach that enables groups to define problems, propose solutions, prioritize ideas, design a prototype and plan an implementation strategy. As a formal method for practical and creative resolution of problems, DT emphasizes a phase during which the group focuses on generating as many ideas as possible using thoughtful prompts (e.g., How might we design ethical standards to guide research using emerging technologies?... create a meaningful informed consent process). Design thinking is also considered particularly useful when addressing problems where the problem itself, as well as the solution, may be unknown or ill-defined at the outset of the problem-solving exercise. During the seminar we will demonstrate the “double diamond 4D” approach where we initially Discover and Define then Develop and Deliver. A high-level goal of this seminar will be to generate ideas for how Society of Behavioral Medicine members, as a key stakeholder group, might foster the ethical conduct of research in the changing landscape of 21st century science. Participants will learn how “Design Thinking” can be used for problem solving by participating in the process of designing the Connected and Open Research Ethics (CORE) project.

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**Wednesday
March 30, 2016
6:00 PM-7:00 PM**

CITATION AWARD WINNER A001

6:00 PM-7:00 PM

SOCIAL SUPPORT PREDICTORS IN AFRICAN AMERICAN BREAST CANCER PATIENTS

Tess Thompson, MPH, M.Phil.¹, Maria Pérez, MA², Matthew Kreuter, PhD¹, Julie Margenthaler, MD³, Graham Colditz, MD, DrPH³, Donna B. Jeffe, PhD³

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In breast cancer patients, higher perceived social support is linked to better health and psychosocial outcomes. Research in largely white samples of breast cancer patients has shown a decline in social support after diagnosis, but less is known about how social support changes in African Americans with breast cancer. We interviewed 227 non-metastatic African American breast cancer patients (72% early stage, 28% late stage; 58% household income < \$25,000; 27% married/partnered; mean age 56.0 [SD=10.0], range 33–81 years) participating in a randomized controlled trial of a culturally tailored survivor stories video intervention. Interviews were conducted at enrollment, 1 month later, and then 6 months, 1 year, and 2 years after definitive surgical treatment. Growth curve models examined intercept (estimate of stable level) and slope (change over time) of perceived social support (MOS Social Support Survey). Linear models had acceptable fit (CFI/TLI > .90, RMSEA < .08, SRMR < .08). A multiple-group model showed no significant decline in social support in either intervention or control groups, but there was significant variance from zero in both stable levels of social support and change in social support among participants ($p < .001$), indicating that individuals had varied trajectories that could not be fully described by mean scores. Demographic, psychosocial, and clinical predictors of intercept and slope were added to the model and varied between groups. In controls, being married and receiving chemotherapy were associated with higher social support intercept, and depressive symptoms were associated with lower support intercept; receiving radiation was associated with increased social support over time. In the intervention group, higher depressive symptoms were associated with lower support intercept, and greater faith was associated with higher support intercept. We found that mean social support did not decline over time, but some patients showed low levels of support or a decline in support over time. Clinicians should screen for social support and provide psychosocial interventions for patients lacking support, particularly patients with more severe depressive symptoms, those not involved in faith communities, and those not married/partnered.

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A002

6:00 PM-7:00 PM

SOCIAL SUPPORT VARIABILITY AMONG CAREGIVERS OF LATINA BREAST CANCER SURVIVORS

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Background: Given the documented burdens of cancer caregiving, understanding more about the factors that influence caregivers' perceived social support is important. Few studies have examined associations between social support, relationship type, and caregiver sex among caregivers of Latina breast cancer survivors. **Methods:** Caregivers of Latina breast cancer survivors were recruited at four community sites in three states. We administered a telephone survey to caregivers to collect their demographics, relationship to the survivor, and perceived social support. Social support was measured with the Duke-UNC Functional Social Support questionnaire; scores could range from 8–40. We classified caregivers as partners, children, other family, and non-family. We conducted a one-way analysis of variance to examine differences in social support across caregiver relationship category. We used a t-test to examine differences in social support by caregiver sex. **Results:** Of 61 caregivers who reported their relationship to the survivor, relationship type was quite variable: 32.8% partners, 21.3% adult children, 31.1% other family, 14.8% non-family. Most partner caregivers were male (90%) and most adult children caregivers were daughters (84.6%). Survivor-caregiver relationship type was significantly associated with caregivers' level of social support [$F(3,57)=2.89$, $p=.04$]. Partners ($M=28.6$, $SD=7.8$) reported significantly less social support than adult children ($M=35.7$, $SD=3.8$). Among 94 caregivers, male caregivers reported less perceived social support ($M=29.0$, $SD=8.2$) than female caregivers [$M=32.6$, $SD=6.7$; $t(92)=5.66$, $p=.02$]. **Conclusion:** Among a diverse sample of caregivers of Latina breast cancer survivors, partners and male caregivers (e.g., sons, other male relatives) appear to experience lower social support compared to other caregivers. Results have implications for tailoring caregiver intervention approaches to relationship type and caregiver sex. Future research can explore social support among caregivers who are female partners and sons of Latina breast cancer survivors.

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A003

6:00 PM-7:00 PM

SOCIAL SUPPORT, INSOMNIA SYMPTOMS, AND COGNITIVE BEHAVIORAL THERAPY FOR INSOMNIA AFTER CANCER TREATMENT

Charles Kamen, PhD, MPH¹, Charles Heckler, PhD¹, Anita Peoples, PhD¹, Sheila Garland, PhD², Ian Kleckner, PhD¹, Gary Morrow, PhD¹, Karen Mustian, PhD, MPH³, Joseph A. Roscoe, PhD¹

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Background: Though cognitive-behavioral therapy for insomnia (CBT-I) is effective in addressing insomnia symptoms among cancer survivors, some individuals do not respond to this intervention or respond sub-optimally. Social support is associated with reduced sleep disturbance, and supportive relationships may predict response to sleep interventions in the population at large. There remains a need for research examining sociocultural and environmental factors, such as social support, that can predict response to CBT-I among cancer survivors. **Methods:** This is a secondary analysis of a four-arm clinical trial testing CBT-I, Armodafinil (A, a wakefulness promoting agent), CBT-I+A, or placebo (P) for addressing insomnia among 96 cancer survivors (all cancer types, mean age 56, 86% female). CBT-I and Armodafinil were administered over the course of seven weeks, and participants were assessed at baseline, post-intervention, and at a three month follow-up. Social support was assessed using the Functional Assessment of Chronic Illness Therapy, while insomnia symptoms were assessed using the Insomnia Severity Index. **Results:** At baseline, social support was significantly and negatively associated with insomnia symptoms ($r=-.30$, $p=.002$). At post-intervention, controlling for baseline scores, social support and intervention with CBT-I were independently and negatively associated with insomnia symptoms ($p < .01$). By contrast, Armodafinil did not predict significant variance in sleep ($p=.19$). The associations between social support, CBT-I, and insomnia were maintained at the three-month follow-up. **Conclusion:** Social support is a significant predictor of insomnia, even accounting for the effect of CBT-I. Additional, nuanced examinations are needed to determine whether social support can be leveraged to improve adherence and response to CBT-I.

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A004

6:00 PM-7:00 PM

SOCIOECONOMIC DETERMINANTS OF PEDIATRIC AML SURVIVORSHIP

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Acute myeloid leukemia (AML) comprises less than 20% of all pediatric leukemia cases yet accounts for 50% of pediatric leukemia deaths in the USA (Howlander et al., 2012; Linaberry & Ross, 2008). Adding to mortality risk, socioeconomic status (SES) consistently emerges as a determinant of health outcome disparities among children with cancer (Njoku, Basta, Mann, McNally, & Pearce, 2013), yet the mechanisms from SES to survival remains unclear (Adler & Newman, 2002). Although the impact of SES on pediatric survival is widely-studied around the globe (Gupta et al., 2014; Njoku et al., 2013), little research has examined SES and AML survival within the USA and few studies use robust SES measurement (Petridou et al., 2015). The aim of the current study was to identify the risk of pediatric AML mortality associated with distinct patterns of community-level SES indicators.

Data regarding pediatric AML cases, diagnosed before age 20 ($N = 3651$), were drawn from SEER registries spanning 1973 to 2012. Principal component (PC) analysis, then cluster analysis of PC scores were conducted to identify unique groups using multiple county-level SES. A stratified Cox proportional hazards model was used to compare the risk of mortality between SES groups. The model was stratified by the year of diagnosis to account for time-varying survival patterns over 1973-2012.

Cluster analysis revealed seven unique SES groups. Group 1 ($n = 679$) had the lowest mortality risk and primarily comprised non-Hispanic Caucasian families in the Eastern US in counties with low poverty rates. Two of the remaining five groups demonstrated significantly elevated mortality risk relative to Group 1. Group 5 ($n = 405$; Hazard Risk (HR) = 1.3, 95% CI 1.0-1.5) included primarily Hispanic families in the Western US in counties that were young, highly mobile, and poorly educated, with high unemployment rates. Group 6 ($n = 364$; HR = 1.2; 95% CI 1.0-1.4) was primarily non-Hispanic Caucasian families in the Northern Midwest in counties with high poverty rates and low household income.

Multiple converging community-level SES factors contribute to a pattern of increasing pediatric AML mortality risk. These results support the rationale for community-based healthcare interventions tailored to community needs to promote effective service delivery and reduce SES-based survivorship disparities.

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A005

6:00 PM-7:00 PM

STAGING SCHOOLS ON THE DIFFUSION OF INNOVATIONS PROCESS FOR AN INTERVENTION TO IMPLEMENT SUN SAFETY

Kim Reynolds, PhD¹, Kim Massie, BS², David Buller, Ph.D.³, Julia Griffith, MSW⁴, Mary Buller, B.A., M.A.⁵, Jeff Ashley, MD⁶, Richard T. Meenan, PhD, MPH⁶¹Claremont Graduate University, Claremont, CA; ²Claremont Graduate University, Rancho Santa Margarita, CA; ³Klein Buendel, Inc., Golden, CO; ⁴Klein Buendel Inc, Golden, CO; ⁵Sun Safety for Kids, Burbank, CA; ⁶Center for Health Research, Kaiser Permanente Northwest, Portland, OR

The California School Boards Association recommends that public school districts adopt Board Policy 5141.7 for sun safety. An intervention, Sun Safe Schools, was developed to support schools in district with the policy to implement it. Sun safety coaches were trained to work with principals, school staff and volunteers (e.g. PTA). Coaches met with principals and had them select practices to implement. Coaches identified the initial stage the school was in for each practice based on diffusion of innovations theory (i.e., agenda-setting [need], matching [fit], and structuring [initial implementation]) to provide appropriate resources. The intervention is being evaluated in a sample of California public elementary schools in a randomized trial. Half of the schools were assigned to receive the Sun Safe Schools intervention ($n=46$) and, to date, coaches have met with principals at 35 schools. Coaches deliver 10 components during an initial intervention session. They successfully completed all 10 components at 80% of the schools (9 components at 11% and 8 components at 9%) – introduction (100%), district policy review (100%), implementation checklist review (69%), sun safety practices checklist review (89%) and selection (89%), school site resources identified (97%), intervention resources provided (100%), mini-grant program presented (100%), action plan introduced (86%), and take-away tasks created (100%). Principals selected a mean of 4.8 sun safety practices to implement (range=2-11 per school), most commonly educating students (31%), parents (28%), or staff (17%) and less commonly changing student behavior (3% sunscreen, 5% hats, 7% shade) or re-scheduling outdoor activities (3%). Schools were most often in matching (55% of selected practices) or agenda-setting (32%; structuring 13%) stages of diffusion. To date, 60% of schools have completed at least one practice (mean=2.3 practices). Results suggest that schools in districts with board-approved sun safety policies will accept support from coaches and many will take steps to implement the policies. The presence of a district policy when combined with coaching may facilitate implementation of school sun safety practices. The trial will test whether the intervention increases policy implementation over that achieved by usual-care control schools.

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A006

6:00 PM-7:00 PM

SUNBURN TENDENCY PREDICTS BUT DOES NOT MODERATE INCREASED RISK PERCEPTION FOLLOWING MELANOMA GENETIC TESTING

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Genetic testing alerts members of high-risk families to their hereditary cancer risk so they may proactively take steps to reduce it. People who test positive for a *CDKN2A/p16(p16)* gene have a 76% lifetime melanoma risk. Phenotypic factors also confer risk and these visual features may be salient when assessing risk. It is unknown how these contributors to melanoma risk jointly influence risk perceptions following genetic counseling and testing. A prospective nonexperimental control group design compared the impact of melanoma genetic testing on risk perceptions to equivalent counseling based on family history alone. All participants were unaffected members of families with 3+ melanoma cases, ages 16-70. Families in which a *p16* mutation was identified (31 carriers, 44 noncarriers) and comparable families with no *p16* mutation (49 no-test controls) were counseled regarding their elevated risk, but only members of *p16* families received a genetic test result. Participants completed surveys assessing lifetime and comparative melanoma risk prior to counseling and 1 month later. Participant ratings of sunburn response (1=never burns, 5=always burns), but not suntan response, predicted greater lifetime ($r=.182, p < .05$) and comparative risk ($r=.281, p < .01$), indicating that those who burn easily rated their melanoma risk as higher after counseling. Analyses examining risk perceptions as a function of genetic test results indicated a significant Group \times Time interaction ($F(2,121)=37.94, p < .001$), such that receipt of a positive test result created significant increases in both lifetime (from 60% to 68%) and comparative risk estimates (4.13 to 4.58 of 5) whereas those who received equivalent family history-based counseling reported a significant decrease in lifetime risk (68% to 58%) and no change in comparative risk (4.00 to 4.08). Noncarriers' perceived risk dropped substantially (55% to 22% lifetime, 3.77 to 3.50 comparative). These effects were not moderated by sunburn or suntan response, suggesting that the effects of melanoma genetic testing on risk estimates did not depend on participants' ratings of their skin's typical response to the sun. Future research should examine whether other phenotypic features (e.g., hair color, moles) interact with genetic test results to influence melanoma risk perceptions.

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A007

6:00 PM-7:00 PM

SYMPTOM IMPORTANCE IN METASTATIC BREAST CANCER PATIENTS

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Research on symptoms in cancer patients has largely focused on symptom severity, frequency, and distress. Assessing patients' perceptions of symptom importance—how important it is for them to see improvement in a symptom—would also inform patient-centered treatment approaches, but this has not been examined in patients with cancer. In order to address this gap, this study aimed to identify physical and psychological symptoms considered most important to metastatic breast cancer patients, a population with high symptom burden. Subgroups of patients were derived based on ratings of symptom importance. Eighty metastatic breast cancer patients were recruited from the Indiana University Simon Cancer Center to participate in this cross-sectional telephone interview study. The interview included measures of demographics, quality of life, symptom severity, and the importance of seeing improvement in specific symptoms post-treatment. An exploratory cluster analysis was performed on patient-rated symptom importance for 10 symptoms (i.e., pain, fatigue, anxiety, sadness, numbness/tingling in hands/feet, swelling of arms or legs, nausea, hot flashes, sleep problems, and attention/thinking/memory problems) and revealed four clusters of patients based on these ratings: 1) all symptoms rated highly, 2) thinking, sleep, and fatigue rated highly, 3) pain and fatigue rated moderately, and 4) pain, fatigue, anxiety, sadness, sleep and thinking rated highly important. One-way ANOVAs indicated that the clusters differed on years of education [$F(3, 76) = 4.58, p = .005, \eta^2 = .15$], quality of life [$F(3, 76) = 8.16, p < .001, \eta^2 = .24$], and usual symptom severity for anxiety [$F(3, 76) = 6.11, p = .001, \eta^2 = .19$], sadness [$F(3, 76) = 3.89, p = .012, \eta^2 = .13$], sleep problems [$F(3, 76) = 3.07, p = .033, \eta^2 = .11$], and thinking problems [$F(3, 76) = 10.83, p < .001, \eta^2 = .30$]. Findings suggest that subgroups of metastatic breast cancer patients have different symptom treatment priorities, which highlights the importance of tailoring treatment to these priorities.

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A008

6:00 PM-7:00 PM

TEMPORAL RELATIONSHIPS BETWEEN PHYSICAL ACTIVITY AND SLEEP AMONG BREAST CANCER PATIENTS WITH SLEEP DISTURBANCES

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The present study was conducted to prospectively investigate the day-to-day bidirectional relationships between objective measures of physical activity and sleep parameters among breast cancer patients with insomnia symptoms.

A subgroup of participants ($N = 66$) enrolled in a randomized controlled trial for insomnia comorbid with cancer wore an actigraph for seven consecutive days before the intervention. Multilevel models examined whether sleep parameters (sleep onset latency [SOL], wake after sleep onset [WASO], total wake time [TWT], sleep efficiency [SE] and total sleep time [TST]) on a given night predicted the levels of physical activity (daily activity counts and minutes of moderate to vigorous physical activity [MVPA]) the following day, and vice versa.

Adjusted models revealed that a higher SE ($\beta = .10$, $SE = .04$, $p < .001$) and a lower TWT ($\beta = -.10$, $SE = .04$, $p < .001$) were significantly associated with a greater daily activity count fluctuation. Greater total daily count fluctuations were significantly associated with higher WASO ($\beta = .18$, $SE = .07$, $p < .01$), TWT ($\beta = .12$, $SE = .04$, $p < .001$) and TST ($\beta = .22$, $SE = .08$, $p < .001$) the following night. More minutes of MVPA were also significantly related to longer TST ($\beta = .14$, $SE = .07$, $p < .05$).

These findings support a reciprocal and complex relationship between physical activity and sleep parameters. They do not confirm a possible beneficial effect of physical activity on objective sleep parameters but conversely suggest that successful insomnia treatments could increase daily physical activity in patients with cancer.

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A009

6:00 PM-7:00 PM

THE UTILITY OF VIDEO INTERVENTIONS FOR CANCER CONTROL: COMMUNICATION AT A CROSSROADS

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Background: The use of videos for health education in clinical and public health settings has been widely adopted and studied. **Objective:** Conduct a systematic review of published studies evaluating video interventions across the cancer control continuum. **Methods:** PubMed, PsychINFO, CINAHL, SCOPUS and Web of Science were searched using keywords to create a dataset of English language studies published from 1984 to 2014. Of 779 unique articles, 315 were coded after exclusion criteria were met. Four coders coded a 10% sample; Kappa was used to assess inter-rater reliability. The full dataset was then coded by 3 independent coders. Descriptive frequencies and proportions were calculated. **Results:** Studies evaluating video interventions have increased steadily over time, with 47% published since 2010. The majority used RCT designs (54%), followed by single group pre-post-test designs (18%). Most were delivered in health care settings (39%). Delivery platform was most often unspecified (58%); 13% were delivered on DVD and 11% on VHS. Detection (30%) and treatment (16%) were the continuum stages most frequently addressed, with breast cancer (29%) being the most targeted cancer site. Risk factors and behaviors most commonly addressed were screening/early detection (39%), treatment decisions/patient engagement (13%), and sun safety (8%). In contrast, topics such as physical activity, caregiving, coping, palliative care, and end of life were rarely addressed. Most studies (52%) evaluated two or more outcomes, primarily focusing on knowledge, self-efficacy, psychosocial factors, screening, and treatment decisions. The majority (69%) were successful at achieving their stated objectives. **Conclusions:** The efficacy of video interventions in cancer control has been well studied. In general, videos have been successful at achieving health-related goals and cancer-related behavior change for a variety of populations. The next generation of research should test innovative designs and new delivery platforms, and should target understudied behaviors and multiple levels of influence.

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A010

6:00 PM-7:00 PM

UNDERSTANDING CANCER RISK BEHAVIORS AMONG YOUNG ADULT WOMEN: IMPLICATIONS FOR PREVENTION

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Young adulthood (YA) is characterized by major life transitions (e.g., educational, vocational) and a surge in behaviors that increase the risks of cancer later in life. YA women may be vulnerable to risk-taking behavior, but few studies have examined their determinants and patterns of comorbidity. We examined the prevalence of three important cancer risk behaviors affecting YA women (frequent indoor tanning, binge drinking, cigarette smoking) and associated psychosocial factors. Data were from a study of cancer prevention among YA women in Washington, DC. Participants ($N=304$) were non-Hispanic white females ages 18-30 ($M=23.1$) reporting ≥ 1 indoor tanning episode in the past year who completed measures behavioral cancer risks, sensation seeking, body image, and psychological distress. Analyses examined associations among frequent indoor tanning (indoor tanning ≥ 10 times in the past year), binge drinking (consuming ≥ 4 drinks on ≥ 1 occasion in the past month), and current smoking (smoking ≥ 100 lifetime cigarettes and currently smoking all/some days), and psychosocial factors. A multiple cancer risk factor index (MCRFI) was computed by summing the total risk behaviors and was the dependent variable of interest. Half of YA women were frequent indoor tanners, 71% reported binge drinking, and 18% were current smokers. Common co-occurring behavioral risks were frequent indoor tanning + binge drinking ($n=108$, 36%) and frequent tanning + current smoking ($n=61$, 20%). After adjusting for demographic covariates, sensation seeking ($B=.03$, $p < .001$) and negative body image ($B=.29$, $p=.001$) were associated with a greater MCRI. These findings underscore the importance of behavioral interventions to help YA women identify healthier sources of reward, gain body image acceptance, and quit smoking to decrease the burden of cancer by fostering preventive behaviors early in life.

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A011

6:00 PM-7:00 PM

UNDERSTANDING THE EFFECTS OF AN ONLINE SKIN CANCER RISK REDUCTION INTERVENTION

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UV4.me is an internet intervention found to be efficacious in decreasing UV exposure and increasing skin protection. This study's purpose was to investigate for whom the intervention worked best and how. 965 participants were recruited nationally online, were 18-25 years old, and at risk of developing skin cancer. Participants were randomized to the experimental website (UV4.me), a control website, or assessment only. UV4.me is based on the Integrative Model of Behavioral Prediction and includes 12 topical modules (e.g., indoor tanning), several generic modules (e.g., an avatar), and is targeted to young adults, personally tailored, and includes interactive and multimedia components. We conducted linear regression and mediation analyses. The intervention was more effective at increasing protection for participants with a family history of skin cancer ($p=.01$). The effect on UV exposure was greater for indoor tanners ($p=.04$). Improvements in skin protection (but not UV exposure) were more likely the more satisfying and helpful individuals found the interventions ($ps < .01$). Individuals in the UV4.me condition had better outcomes if they completed more modules ($ps < .01$), set more behavioral goals ($ps < .01$), or had symptoms of tanning dependence (protection only, $p=.003$). Knowledge, exposure decisional balance, and norms mediated UV exposure intervention effects ($ps < .001$), and self-efficacy, protection decisional balance, and intentions mediated protection intervention effects ($ps < .01$). In summary, the intervention was found to be most efficacious for several high risk groups. The more individuals liked and engaged with the intervention, the better their outcomes. Mediation results provide information about change mechanisms and were found to differ by behavioral outcome. The current findings highlight the importance of online intervention engagement and suggest module topics and constructs that could be further emphasized.

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A012

6:00 PM-7:00 PM

UNDERSTANDING WOMEN'S HESITANCY TO UNDERGO LESS FREQUENT CERVICAL CANCER SCREENING

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Background: Inappropriate cervical cancer screening (e.g., screening too often) can result in unnecessary medical procedures and treatment, as well as psychological distress. As such, cervical cancer screening guidelines were recently modified in favor of less frequent (every 3-5 years) rather than annual screening. Nevertheless, some women remain uncomfortable with the new guidelines. This study investigated factors associated with women's acceptance of less frequent cervical cancer screening as well as their concerns with extending the screening interval. **Method:** A national sample of 377 U.S. women (ages 21 to 65; mean age 41, 85% white) completed an online survey assessing their willingness to get a Pap test every 3-5 years if recommended by their physician. Participants also reported their perceptions of the risks associated with extending the screening interval. Predictors of willingness to undergo less frequent screening were identified using multivariate logistic regression. **Results:** In total, 20% of participants were unwilling to get a Pap test every 3-5 years, even if it was recommended by their physician. Racial minorities and women who visit an obstetrician-gynecologist (vs. family physician) for their Pap test were less willing to follow the new guidelines. Many women reported concern about developing cervical cancer within the longer screening window. **Conclusions:** Some women are hesitant to accept a longer interval for cervical cancer screening despite evidence-based guidelines. More research is needed to understand why racial minority women and women who see an obstetrician-gynecologist for their Pap test are less accepting of the new screening guidelines. Findings contribute to the growing body of research on cancer overscreening and may inform interventions aimed at increasing women's comfort and adherence with cancer screening guidelines that are consistently changing.

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A013

6:00 PM-7:00 PM

UNPACKING CANCER PATIENTS' PREFERENCES FOR INFORMATION ABOUT THEIR CARE

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Background: Shared decision-making models advocate for actively involving cancer patients in complex treatment decisions, which requires patients to be fully informed about many facets of their care. However, patients' information preferences are often unmet by their doctors. Further, there may be specific topics about which they prefer more or less information than others. The current study examined how much information cancer patients wanted about three topics related to their care: 1) diagnostic information, 2) treatment costs, and 3) prognosis. We then tested whether factors known to influence information preferences (psychological distress, control preferences, and financial distress) were differently associated with information preferences for each topic. **Methods:** 176 cancer patients receiving ongoing treatment (mean age = 63.0; 64% male; 68% married; 100% insured) completed a questionnaire that assessed their out-of-pocket treatment costs, psychological distress, preferences for control over their medical decisions, and the amount of information they desired and received from their oncologists about key topics related to their care. **Results:** Patients' preferences for general diagnostic information did not differ as a function of financial burden, distress, or control preferences, $p > .05$. Their information preferences were least likely to be met for treatment cost information, $F(2, 155), 61.60, p < .001$, with half (49%) wanting more information than they received. Adjusting for age, treatment type, and year of diagnosis, those who preferred greater control over their medical decisions wanted more cost information, $b = 0.18, p = .016, 95\% \text{ CI } (0.033, 0.33)$. Information preferences about prognosis remained unmet for one-third of participants. Greater control preferences and lower distress were associated with preferences for more information about prognosis, $ps < .05$. Financial burden was not associated with information preferences. **Conclusions:** Patients' information preferences and the psychosocial factors associated with them vary across different facets of their care. Appreciating these nuances can aid oncologists' efforts to meet their patients' needs.

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A014

6:00 PM-7:00 PM

URINARY AND SEXUAL FUNCTIONING, GENERAL HEALTH-RELATED QUALITY OF LIFE, AND DISTRESS IN LOCALIZED PROSTATE CANCER

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Background: This study evaluated the association between urinary and sexual functioning, and health-related quality of life (HRQoL) and psychological distress in men undergoing either active treatment (AT) or active surveillance (AS) for localized prostate cancer (LPC). We hypothesized that greater urinary and sexual dysfunction would be associated with greater psychological distress and poorer general HRQoL controlling for relevant covariates (age, time since diagnosis, comorbidities, type of treatment (AT v. AS), and baseline score for each outcome). **Method:** Participants were 261 men with LPC (AT: $n=150$, AS: $n=111$) who completed the Expanded Prostate Cancer Index Composite (EPIC-SF), Functional Assessment of Cancer Therapy-General (FACT-G), Center for Epidemiological Studies-Depression Scale (CES-D), and Impact of Events Scale-Revised (IES-R) at pre-treatment baseline (T1) and 1 month post-treatment (T2). The AT group received surgery, radiation, and/or hormone therapy. The AS group completed measures at similar time intervals post-diagnosis. Separate hierarchical regression analyses evaluated whether T2 FACT-G scores were predicted by T1 EPIC-SF urinary or sexual scores controlling for T1 FACT-G scores and other covariates; analysis were repeated for CES-D and IES-R as the outcome. **Results:** As expected, AT participants, relative to AS, had significantly poorer urinary and sexual function at T2. After controlling for covariates and type of treatment, poorer urinary function was associated greater IES-R scores ($p < .05$) and there was a trend for poorer FACT-G ($p=.06$) and worse CES-D scores ($p=.08$). Also, poorer sexual function was associated with greater IES-R and poorer FACT-G scores ($ps < .05$), but not with CES-D scores ($p>.05$). **Conclusions:** Study findings demonstrate that poorer urinary and sexual functioning are related to poorer HRQoL and psychological distress for men with LPC regardless of whether they undergo AT or AS when accounting for treatment and other clinical or demographic factors. Despite their relatively better urinary and sexual health overall, even AS men may experience negative impact on their general HRQoL and psychological distress if these symptoms are present.

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A015

6:00 PM-7:00 PM

USING TECHNOLOGY TO IMPROVE DELIVERY, ENHANCE SOCIAL SUPPORT, AND INCREASE RETENTION: EXPERIENCES FROM THE TOGETHER PROGRAM

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In spite of growing efforts to improve cancer survivorship, many Korean breast cancer survivors (KBCS) have been unable to benefit from existing English programs due to cultural and language barriers. Therefore, we developed one of the first culturally and linguistically appropriate interventions to help address these issues. The TOGETHER (Together Overcome and Get Empowered Through Health Education and Relationships) program includes 7 sessions where women learn vital information and strategies to increase quality of life. In this randomized controlled trial, participants received the standard education program (which covers topics such as diet, exercise, and treatment side effects) or the enhanced program (which contains additional information on mindfulness, stress reduction, and coping). So far, we conducted 3 cohorts including 53 KBCS.

Albeit 78% of participants were over age 50, 82% could use smart phones and text messages. We provided recorded CDs or downloaded relaxation exercises onto participants' phones for them to practice learned skills at their own convenience outside of sessions. In addition, we used phone calls and a free, easy-to-use messaging application to share program information, communicate with participants, and link participants to one another. Moreover, the project coordinator frequently contacted participants to build rapport, ensure understanding of program materials, and provide reminders about homework and upcoming sessions. These regular contacts and resulting relationships were effective in increasing program participation and retention. Despite 55% of women undergoing intensive treatments during the program, 77% attended 5 or more sessions in-person. Social support utilization was a critical component of healing for participants and was enabled by technology. Using phone calls and texts to build intimate relationships between the research team and participants and among participants was critical for the program. These strategies can be used in future interventions to improve delivery, social support, and retention of KBCS.

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A016

6:00 PM-7:00 PM

WEIGHT LOSS ATTEMPTS AMONG OVERWEIGHT AND OBESE U.S. WOMEN 2-5 YEARS AFTER CANCER DIAGNOSIS, NHANES 2005-2012

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Healthy lifestyle improves prognosis and survival after a cancer diagnosis, yet many cancer survivors do not meet guidelines for physical activity, diet, and weight control. We examined the characteristics of overweight and obese female cancer survivors associated with attempting weight loss. We conducted a cross-sectional analysis using data from NHANES 2005-2012. The sample included 100 women with overweight or obesity who reported a diagnosis of cervical, ovarian, uterine, colon, rectal or breast cancer 2-5 years ago. Weight loss attempts were assessed by asking women “during the past 12 months, have you tried to lose weight?” Height and weight were measured objectively while other characteristics were self-reported. Women were asked “would you rather weigh more, less, or stay the same?” and categorized as wanting weight less or not (no women answered “more”). We identified multivariate predictors of weight loss attempts using logistic regression models. All analyses are weighted to represent women nationally. Women were 59.9 (SE: 1.6) years old, 3.4 (SE: 0.1) years since cancer diagnosis, and had mean BMI of 32.8 (SE: 0.9) kg/m². Nine in 10 women (90.1%, SE: 2.5%) wanted to weigh less. Fifty-five percent (SE: 5.7%) of women reported trying to lose weight in the past 12 months. Weight loss attempts in the past 12 months were less likely among women with a history of diabetes (27.1 [SE: 12.5]% vs 61.6 [SE: 6.7]%; OR=0.2; 95% CI: 0.04-0.9) and more likely among women wanting to weigh less (60.3 [SE: 6.0]% vs 0.6 [SE: 0.6]%; OR=293.9; 95% CI: 33.3-2593.9). Weight loss attempts did not differ by age, years since diagnosis, obesity (vs overweight), history of cardiovascular disease, or history high blood pressure. Research is needed to understand the barriers to weight management in female cancer survivors and their understanding of the association between obesity and risk for recurrence.

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A017

6:00 PM-7:00 PM

WHY DO CHILDREN AT ELEVATED RISK FOR MELANOMA NOT ENGAGE IN PREVENTIVE BEHAVIORS?

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Background: Children with a parent affected by melanoma are at elevated risk for the disease. Although adherence to preventive behaviors (e.g., sunscreen, protective clothing, skin exams) could decrease melanoma risk, children are not optimally adherent. The current ongoing study identified adherence barriers to inform the development of behavioral interventions for this at-risk population. **Methods:** We conducted 6 focus groups, 3 with parents ($n=23$) and 3 with their children ($n=18$, 8-17 years, all with a 1st degree relative with melanoma). Participants completed a survey assessing adherence to preventive behaviors. Focus groups were transcribed. Open coding and the constant comparative method were used to summarize qualitative data. **Results:** Average adherence varied across behaviors. Parents reported that children used sunscreen “often” (but not always) and “sometimes” used hats. 43% of parents reported that children had at least one sunburn in the past year and occurrence of self skin exams every 3 months. Participants noted several barriers to adherence during focus groups: lack of knowledge about self skin exams and tools for preventive behaviors, forgetting, children’s low motivation, and policies (e.g., sunscreen not allowed at school). Parents described barriers relating to children’s age (i.e., older children less adherent), cost, difficulty supervising children when away from home, and concerns about increasing anxiety about melanoma. Children described unique social barriers (e.g., embarrassed to re-apply sunscreen in front of peers). **Conclusions:** Children at elevated risk for melanoma and their parents described multiple adherence barriers for recommended preventive behaviors. Many of these barriers, including lack of knowledge and forgetting, are amenable to behavioral intervention. Interventions for this high-risk population could be tailored to family-specific barriers.

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A018

6:00 PM-7:00 PM

YOGA REDUCES DISTRESS AND ALTERS CIRCADIAN RHYTHM IN CANCER SURVIVORS

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Background: Even months after cancer treatment, many patients experience distress and disrupted circadian rhythm (i.e., abnormal patterns of activity and rest). Distress might arise partly via circadian disruption, and distress can be treated through circadian pathways (i.e., drugs, light, physical activity). Yoga is a popular treatment for cancer toxicities such as distress, but its ameliorative effects cannot be optimized until we better understand how yoga works mechanistically. The goal of this secondary analysis is to test the hypothesis that yoga reduces distress via changes in circadian rhythm. **Methods:** Cancer survivors (2-24 months post treatment, 96% female, 77% breast cancer) with reported sleep disturbances were randomized to either wait-list control ($N=157$) or Yoga for Cancer Survivors (YOCAS®; $N=167$). YOCAS consists of breathing exercises, postures, and meditation in two 75-min sessions/week for four weeks. Both pre- and post-intervention, distress was assessed using the profile of mood states (POMS) total mood disturbances scale and circadian rhythm was assessed using wrist-worn actigraphs for seven days and analyzed with a double cosine model. **Results:** Compared to control, yoga reduced distress (Cohen’s $d=-0.28$, $p < 0.001$, ANCOVA), yoga reduced the amplitude of circadian (24-hr) activity ($d=-0.13$, $p=0.04$), yoga increased the amplitude of ultradian (12-hr) activity ($d=0.18$, $p=0.05$), and yoga decreased the log ratio of circadian to ultradian activity ($d=-0.28$, $p=0.003$). However, baseline distress was not correlated with baseline metrics of circadian rhythm ($ps>0.15$) and changes in distress were not correlated with changes in metrics of circadian rhythm ($ps>0.29$). **Conclusions:** Yoga reduced distress and altered circadian rhythm in cancer survivors. However, these analyses did not support the hypothesis that yoga reduces distress via changes in circadian rhythm. Future research should independently confirm these results and enhance our understanding of circadian rhythm by assessing complementary metrics (e.g., inter-day variability).

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CITATION AWARD WINNER

A019

6:00 PM-7:00 PM

YOUNG AND WORRIED: INCREASING ACCESS TO CARE THROUGH A NOVEL VIDEO CHAT SUPPORT GROUP FOR YOUNG ADULTS WITH CANCER

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Young adults with cancer are considered an “orphaned population” in that they experience high levels of psychological distress and yet have been largely neglected by research in cancer control, prevention, and quality of life. Group interventions for cancer patients have been effective in reducing levels of psychological distress but suffer from high levels of attrition and serve a limited geographic area. The purpose of this pilot project was to design an acceptable and feasible video chat support group intervention for young adults with cancer across a geographically diverse area. Eight young adults (18-40) with cancer were recruited from across Colorado. Participants received a Wi-Fi-equipped tablet loaded with Zoom, a HIPAA-compliant video conferencing application. Participants attended six weekly supportive psychotherapy sessions led by two licensed oncology mental health professionals. Participants found the group to be feasible and acceptable; the technology worked, they enjoyed the group format, and they would recommend it to others. The novel treatment interface allowed for low attrition rates due to the flexibility of the patient’s location during the intervention. Specifically, health status, hospitalization status, severe weather, and distance from the cancer center did not interfere with people’s ability to participate in the group. It also allowed for the provision of services to a geographically diverse population of medically ill young adults. The use of web-based interventions increases access to mental health care and reduces geographic health disparities. Internet-based mental health or telemental health, is an area of growing interest for providers, but few studies have evaluated their efficacy in patients with cancer, and even fewer in young adults with cancer. This pilot project serves as an initial step for the development of future interventions. Incorporating advances in technology into clinical practice will increase access to care and provide more consistent services.

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A019a

6:00 PM–7:00 PM

A QUALITATIVE EXPLORATION OF LATINOS' PERCEPTIONS ABOUT SKIN CANCER: THE ROLE OF GENDER AND LINGUISTIC ACCULTURATION

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Background: Latinos have the highest rate of skin cancers among US minorities. Despite a rising incidence of melanoma – the deadliest form of skin cancer – and greater disease burden, Latinos tend to have poor awareness of skin cancer risk factors which may inhibit preventive action. We expand on prior work by examining key moderators (i.e., gender, acculturation) of skin cancer perceptions among Latinos from El Barrio in Harlem, New York. **Methods:** Four qualitative focus groups stratified by language (English/Spanish) and gender were conducted. Moderators were gender-matched to groups. Discussions were recorded, transcribed, and coded using thematic analysis. Thirty-eight self-identified Latinos (68% female) participated. Across groups, median age was 35 years, 50% completed less than a high school degree, and 82% had annual incomes \leq \$29,999. Over half (55%) were born in Mexico. Acculturation regarding language use and preferences was generally low ($M=8.5$, $SD=3.9$, range=4–20). **Results:** Major themes included: 1) knowledge of common risk factors for skin cancer, 2) acknowledgement of personal risk, although lighter skin individuals are at greater risk, and 3) awareness of effective methods for risk reduction, despite presence of fatalistic beliefs. Compared to males, females discussed tanning norms and appearance-based factors; identified children as vulnerable; highlighted the benefits of sun exposure; and, reported a desire for more information. Few linguistic acculturation patterns were noted: English-speaking Latinos questioned the carcinogenic effect of sunscreen and reported more skin cancer-related discussions with their doctors than Spanish-speaking Latinos. **Conclusion:** Latinos correctly identified common risk factors for skin cancer and believed that it is preventable with proper engagement in risk-reducing behaviors. This is significant considering the reported low acculturation levels of our sample. Future educational interventions must capitalize on and reinforce such beliefs and address fatalistic perceptions which may hinder prevention efforts.

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A020

6:00 PM–7:00 PM

ADOLESCENT LEISURE-TIME INTERNET USE, SCHOOL BOND AND DEPRESSIVE SYMPTOMS: A LATENT GROWTH CURVE ANALYSIS

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The aims of the present study are to identify the association between adolescent leisure-time internet use and school bond exists, and how this association further affect later depressive symptoms among adolescents in Taiwan, using a large-cohort longitudinal study and latent growth model (LGM) method.

Globally, adolescents spent more and more time on the internet and cyber social network has become an important part of their social life. We were interested in knowing whether the increase of time spent on the internet would affect their actual personal life, such as the level of social integration in school. We hypothesized that their cyber social life and level of social integration in school, using school bond as a proxy in our study, would affect their mental health.

Data in this proposed study are from the Taiwan Education Panel Survey, a longitudinal study that started in 2001 and surveyed junior high school students (age 13, W1). A core panel of 4, 261 students were followed for three more waves (at ages 15, 17 and 18, W2–4). Leisure-time internet use was defined as the hours per week spent online chatting and online games, measure three times from W2 to W4. School bond was measured by 7 items about their feelings toward school at W1 and W3 and an average score was calculated for each wave. Depressive symptoms were measure at W4 with six items and a mean score was computed. Conditional LGM results show that higher level of school bond is associated with lower internet use at W2 ($p < .01$), but positively associated with the trend of changes of internet use in adolescence ($p < .01$). When school bond, internet use and depression were in the same model, internet use at W2 and the trend of changes of internet use are both positively associated with depressive symptoms at W4 ($p < .05$).

Lower social integration at age 13 increases the time spent on the internet. Higher internet use at age 15 and increased use of internet use during senior high school were associated with depressive symptoms at age 18, when students' social integration at school were considered. We should consider improving social integration at school for young adolescents to benefit their mental health in the long-term, if cyber social network is inevitable.

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A021

6:00 PM–7:00 PM

ASSESSING READINESS OF THE AFTERSCHOOL PROGRAM INFRASTRUCTURE FOR ADOPTING A PHYSICAL ACTIVITY INTERVENTION

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Physical inactivity is a primary health threat to youth, contributing to lifetime prevalence of obesity and related diseases. Existing youth settings, such as afterschool programs, have been recognized as valuable contexts for interventions to promote increases in adolescent physical activity (PA). However, to date, researchers have had limited success translating promising interventions into sustainable programmatic change. Program effectiveness can be improved by considering the generalizability of an intervention through the assessment of staff readiness. This paper presents findings from a readiness assessment tool that was piloted as part of the Connect Through PLAY project, an intervention that aims to increase PA by improving social connections among afterschool program youth and staff through non-competitive PA.

The readiness tool assesses theoretical and empirically supported factors that influence staff motivation, innovation-specific capacity (e.g., capacities needed for intervention), and general program capacities. The readiness assessment, comprised of qualitative and quantitative items, was included as part of the intervention pilot and was administered to the afterschool program staff in an afterschool program at a public middle school pre and post intervention delivery. Staff's responses were assessed to determine initial levels of motivation and capacity and how readiness domains changed with exposure to the intervention.

Changes in staff motivation and innovation-specific and general capacity were observed. For example, findings indicated increases in staff positive perceptions and motivation to engage with youth in PA. Staff reported a need for improvement in their innovation-specific capacity, seeking more training and tools to implement intervention activities post-intervention and requesting a mid-year booster training with the intervention staff. Discussion will outline how the readiness assessment can help inform modification of an intervention to improve feasibility of implementation and sustainability.

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A022

6:00 PM–7:00 PM

ATHLETIC IDENTITY IN YOUTH ATHLETES PREDICTS SELF-REPORTED POST CONCUSSION SYMPTOM INTENSITY

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High school athletes experience an estimated 3.8 million concussions each year in the United States. In order to better define recovery and promote prevention and re-injury, concussions remain an important area to research further in order to improve overall healthy living. After a concussion athletes experience a wide range of somatic, emotional, behavioral and cognitive symptoms at varying intensities. Most symptoms resolve during an initial 10-day post-concussion period; however, 10% of athletes endure symptoms that extend beyond this recovery window. Few psychological and psychosocial factors have been investigated to date regarding their influence on post-concussion recovery. Athletic identity is an important variable in injury literature, which has been associated with recovery outcomes, treatment adherence, and perception of symptoms. In this study, the relationship between athletic identity and post-concussion self-reported symptom recovery was investigated. Seventy youth athletes ($M_{age}=14.60$ years, $SD=1.9$) presented to a local hospital on average 7.56 days ($SD=3.25$) post-concussion for standard medical assessment. They were followed one (Time 2) and two (Time 3) weeks after this initial (Time 1) hospital visit. Athletes reported concussion symptoms using the Sport-Concussion Assessment Tool-2 at each time point and completed the Athletic Identity Measurement Scale at Time 2. We used hierarchical linear regression, with intensity of concussion symptoms as the outcome variable. Gender, age, concussion history, time since last concussion, and Time 1 symptom intensity were controlled for in our regression analyses. Higher athletic identity was a significant predictor of higher self-reported symptom intensity at Time 2 ($F(6, 44) = 5.01$, $r^2 = .33$, $p = .001$) and Time 3 ($F(6, 39) = 3.30$, $r^2 = .23$, $p = .011$) after controlling for various factors. Therefore, athletic identity may contribute to athletes' experiences of post-concussion symptomatology.

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A023

6:00 PM-7:00 PM

CHILDHOOD SLEEP PATTERNS PREDICT FUTURE SUBSTANCE USE BEHAVIORS: A MEDIATIONAL PATHWAY THROUGH INHIBITORY CONTROL DEFICITS

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BACKGROUND: Substance use initiation during early adolescence has been associated with numerous long-term health risks. Recent work in middle and high school youth suggests that insufficient sleep may be an important predictor of cigarette and alcohol use. A key neurocognitive process associated with both sleep behavior and substance use is inhibitory control—the ability to suppress a prepotent behavioral response. This study explored whether sleep duration and patterns are also important predictors of substance use initiation among late-elementary school youth. We also investigated whether sleep-related changes in inhibitory control mediate prospective relationships between sleep duration and substance use initiation risk from 4th to 6th grade. **METHODS:** We used data from 3 annual assessments waves of a prevention RCT (N=709). Prospective associations between weekday/weekend sleep duration, weekend sleep/wake-time delay and substance use variables were evaluated using logistic regression, adjusting for gender, SES, ethnicity, RCT group, stress, and anhedonia. Dichotomous self-report items representing lifetime cigarette/alcohol use at 6th grade were primary outcomes. Mediation was tested using the KHB method. **RESULTS:** Average weeknight sleep duration at 4th grade was a significant predictor of lifetime cigarette use [OR=.76(.60-.95)] and alcohol use [OR=.81(.67-.98)] at 6th grade adjusting for covariates. Fourth grade average weekend sleep duration significantly predicted 6th grade cigarette use [OR=.87(.75-1.00)] but not alcohol use [OR=1.02(.84-1.23)]. Inhibitory control was a significant mediator ($p < .01$) of associations between weekend sleep/wake-time delay and cigarette use, and a marginally significant mediator ($p < .1$) of associations between both sleep/wake-time delay and alcohol use and as well as associations between weekday sleep duration and cigarette use. **CONCLUSIONS:** Insufficient sleep, particularly on weeknights, was associated with increased risk of cigarette and alcohol use initiation. This association was significantly mediated by inhibitory control deficits, suggesting that promotion of sleep hygiene may improve inhibitory control and reduce substance use initiation risk among late-elementary school children.

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A024

6:00 PM-7:00 PM

CORRELATES OF QUALITY OF LIFE AMONG YOUTH WITH RHEUMATIC DISEASE: IMPLICATIONS FOR COMPARATIVE EFFECTIVENESS RESEARCH

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Background: Juvenile idiopathic arthritis (JIA) is the most common cause of acquired disability in the US and the fifth most common chronic childhood disease. Children with JIA report poorer health related quality of life (HRQOL) than healthy peers even in the setting of low disease. Early monitoring of HRQOL can lessen morbidity/mortality of chronic disease in childhood and increase the odds of reaching developmental milestones with compounding benefits over the life course. Understanding variation in and correlates of HRQOL can help focus interventions toward remediable factors. **Methods:** Consented patients and parents from 4 sites in the national Childhood Arthritis and Rheumatology Research Alliance Registry were enrolled contingent on child diagnosis of JIA, lupus, or mixed connective tissue disease and use of a treatment medication. Patient reported outcome (PRO) measures were collected in-clinic on a tablet computer. HRQOL was measured using the Pediatric Quality of Life Inventory 4.0, and variation in HRQOL across sites was tested. Associations with patient demographics, reported adverse drug reactions/events (ADRs)/(AEs), methotrexate intolerance, pain interference with aspects of daily life and minutes of morning stiffness were assessed using structured measures and descriptive statistics. **Results:** Of 198 participating parents (70% response rate), 55% had children 2-12 years old, 45% had a teen. The mean patient age was 12. Among patients, most had JIA (93%); 79% were female. The mean HRQOL score (0-100 scale) was 79.4 (SD 18.4); values did not vary across sites. HRQOL was positively associated with white race ($p=.01$), and inversely associated with age ($p=.037$). HRQOL was inversely associated with morning stiffness ($p<.0001$), and pain interference ($p<.0001$). In all, 27% of respondents reported ADRs/AEs from treatment, and 45% of those on methotrexate reported symptoms of intolerance; these factors were inversely associated with HRQOL ($p=0.0003$ and $p=.055$ NS, respectively). **Conclusion:** HRQOL is integrally related to symptoms of disease activity and to treatment side effects and problems, which are prevalent. Addressing these issues may improve outcomes, including potentially through fostering better adherence. Findings are relevant to comparative effectiveness research for pediatric rheumatic disease.

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A025

6:00 PM-7:00 PM

DISTORTED BODY IMAGE AND ALCOHOL USE AMONG HIGH SCHOOL GIRLS: RESULTS FROM THE 2013 YOUTH RISK BEHAVIORAL SURVEY

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Background: A distorted body image (DBI) represents a disconnect between body image and reality. The need to be thin is pervasive in adolescent culture, which has been associated with increased risk outcomes among this population. To understand these issues further, we examined the relationship between DBI and lifetime and current alcohol use among high school girls in the U.S. **Methods:** We conducted analyses using nationally-representative data from high-school students surveyed through the 2013 Youth Risk Behavior Survey (YRBS). Survey-weighted multivariable logistic regression analyses with multiple imputation were run to examine the association between having a DBI [reporting being 1) underweight and trying to lose or stay the same weight, 2) normal weight and trying to lose or gain weight, or 3) overweight and reporting trying to stay the same weight or gain weight] and 1) lifetime and 2) current alcohol use (≥ 1 drinks in the past 30 days) among students. The sample included female students aged 14-18 ($n=6,579$). **Results:** 37.5% screened in for having a DBI, and 67.7% and 32.9% reported lifetime and current alcohol use, respectively. In the final multivariable logistic regression model, which controlled for demographics (grade, race/ethnicity), depression, current cigarette smoking, sexual active before age 13, and exercise, we found that DBI was associated with a 1.29 (AOR: 1.10-1.51; $p=0.002$) greater odds of lifetime alcohol use compared to those who did not have DBI. DBI was not significantly associated with current alcohol use. **Conclusions:** DBI was associated with lifetime, but not past 30 day alcohol use, indicating that the timing of alcohol use and onset of DBI may be related. Additional studies that explore the relationship between having a distorted sense of weight and body image and alcohol and other drug use are recommended to inform future prevention efforts.

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A026

6:00 PM-7:00 PM

DOES PROGRAM ATTENDANCE OR DELIVERY AGENT INFLUENCE PARENTAL SATISFACTION OF A FAMILY-BASED CHILDHOOD OBESITY TREATMENT?

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OBJECTIVE: Examine parental satisfaction with a multicomponent family-based childhood obesity treatment program (iChoose) and determine if program attendance or delivery agent (community vs. research staff) influenced satisfaction. iChoose is a 3-month evidence-based program that included 6 family classes, 24 physical activity sessions, and 6 support calls. **METHODS:** Using a Community-Based Participatory Research approach and systems-based approach, iChoose was delivered in 3 waves to 94 caregivers and 101 children in a medically-underserved region. Research staff delivered family classes to wave 1, community staff delivered family classes to wave 2 and 3, community staff delivered all physical activity sessions, and support calls were shared among research and community staff. Sixty-five caregivers completed the mixed-methods semi-structured satisfaction interviews. Quantitative satisfaction was operationalized as the degree of parental satisfaction with family classes (2- items), physical activity classes (3-items) and support calls (8-items) (1=Completely Dissatisfied; 10=Completely Satisfied). Caregivers were categorized into low or high attenders for each program component and data were compared for those receiving the content from community or research staff. **RESULTS:** Overall satisfaction was high for family classes=9.4(0.8), physical activity sessions=9.0(1.7), and support calls=7.9(1.8). There was no significant difference between program attendance and parental satisfaction with any program components. Likewise, there was no significant difference between satisfaction ratings for parents who received content via community or research staff. Qualitative data revealed both parents and children enjoyed iChoose, and revealed areas for improvements. **CONCLUSION:** Understanding participant satisfaction and engaging community partners is a key aspect of developing sustainable programming in underserved regions. iChoose had high satisfaction ratings, which was unrelated to program attendance or delivery agent. Funding: NIH/NCMHHD1R24MD008005

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CITATION AWARD WINNER

A027

6:00 PM-7:00 PM

EFFECTS OF HIGH SUGAR/LOW FIBER VS LOW SUGAR/HIGH FIBER EXPERIMENTAL MEALS ON AD LIBITUM SUGAR INTAKE IN OVERWEIGHT ADOLESCENTS

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Sugar restriction, mood, and impulsivity may influence food choice in overweight youth. This study used data from a randomized crossover feeding study in overweight minority youth to 1) examine the impact of test meals differing in sugar content on ad libitum sugar intake and 2) examine the effect of mood and impulsivity on the link between meal condition and ad libitum sugar intake. Eighty-seven overweight/obese African American (AA) and Hispanic youth (mean age=16.3±1.2, mean BMI-z score=2.0±0.5, 48.9% male, 43.2% AA) ate high sugar/low fiber (HSLF) and low sugar/high fiber (LSHF) breakfast and lunch meals on separate days, with a 2-4 week washout. After lunch, they were given an ad libitum snack tray with a variety of HSLF and LSHF options for 3 hours. Impulsivity was measured at baseline via the UPPS Impulsive Behavior Scale. Negative mood was measured during the 3 hour snack period every 30 minutes via a visual analogue scale measure adapted from the Profiles of Mood States. Mean negative mood and impulsivity were categorized into tertiles. Grams (g) of ad libitum sugar intake were assessed by a Registered Dietician. Repeated measures ANCOVA was used to examine the effect of meal condition on ad libitum sugar intake. Separate multiple regression analyses were used to examine the effects of mood and impulsivity on ad libitum sugar intake for each meal condition, controlling for ad libitum energy intake (kcal), sex, ethnicity, randomization order, and BMI-z score. Youth consumed more ad libitum sugar in the LSHF vs. the HSLF condition (LSHF mean=78.6±38.8 g, HSLF mean=70.9±37.7 g, $F=28.1$, $p < 0.0001$). Negative mood was not associated with sugar intake. Impulsivity predicted sugar intake in the HSLF condition only; participants in the highest tertile consumed more sugar compared to participants in the lowest tertile ($B=0.8$, $SE=0.4$, $p=0.02$). Participants compensated for low sugar intake in the LSHF meal condition by consuming more sugar when they were given a choice of foods during the snack period, regardless of impulsivity level. Participants with the highest level of impulsivity consumed more sugar than those with the lowest level, regardless of having access to sugar in the test meals, during the HSLF condition. Future research should explore the mechanisms underlying compensatory reaction to sugar restriction and future dietary interventions should aim to reduce compensatory sugar intake.

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A028

6:00 PM-7:00 PM

DELIVERY OF MOTIVATIONAL INTERVIEWING WORKSHOPS TO CLINICS SERVING VULNERABLE POPULATIONS

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Background: With grant support, a large urban medical center has formed a collaborative partnership with a group of 13 Federally Qualified Health Centers to develop and implement a motivational interviewing curriculum for its health care providers, care coordinators and community health workers. Purpose: Development, implementation and evaluation of a 4 hour tailored workshop with follow-up concordant testing to teach principles of motivational interviewing, coaching and relapse prevention techniques. Data was collected, pre-workshop, immediately post-workshop and 8 weeks post-workshop. Results: Workshops were delivered to 13 sites (N=114 health care providers). The majority of participants were care coordinators (36.6% n = 37). Pre-workshop data showed that 94.3% were familiar with MI, but only 68.6% thought they could use the technique to encourage a commitment to change. Post-workshop data showed that compared to pre-workshop, participants felt better prepared to: 1) build collaborative partnerships (84.7% vs 98.2%; change increase 13.5%); and, 2) encourage patient commitment to change (68.6% vs 93.5%; change increase = 29.4%). Post-workshop barriers included: 1) uncomfortable with content (13.3%); 2) change is too time-consuming (33.7%); 3) patients are resistant to change (54.1%). At 8 weeks, participants (n = 28) reported they were all (100%) building collaborative relationships, and 93% were able to encourage patient commitment to change. Conclusion: Each clinic valued the workshop as evidenced by high attendance, engagement and participation in long-term follow-up measures. Learner responses indicated that within this sample, the workshop was effective in moving participants to actual change in practice and in effectively promoting patient change. Additional strategies include reinforcement of key learning objectives through-mail testlets and other on-going programing.

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A029

6:00 PM-7:00 PM

DISSEMINATION TO IMPLEMENTATION: EFFECT OF EST TRAINING ON ATTITUDES, SELF-EFFICACY, INTENTIONS, AND USE

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There is a gap between availability of empirically supported treatments (EST) and usage in the community. Even when clinicians receive dissemination education, usage may be modest. This phenomena was studied by offering 3-day training institutes to psychooncology clinicians (N=110) to learn the Biobehavioral Intervention (BBI), an evidence-based intervention designed to help cancer patients cope with stress. Training was effective (Brothers et al., 2015). Clinicians were then offered 6 months of implementation support (e.g. conference calls, web resources). They were assessed post-institute and 2, 4, and 6 months later on attitudes towards evidence-based practices and the BBI, self-efficacy to implement the BBI, and intentions to use the BBI. BBI usage logs were completed at 2, 4, and 6 months. Clinicians were licensed MA/PhD providers in mental health oncology (89%) from 31 states. Research suggests that providers used the BBI with 57-66% of their patients. Multilevel models found attitudes about evidence-based practices to be initially high and remain so with follow up ($p > 0.05$). BBI attitudes, self-efficacy and intentions showed quadratic patterns of change ($ps < 0.05$); values were high post-institute, decreased from 2-4 months, and then increased from 4-6 months. Multiple Linear Regression was used as a preliminary step to examine factors associated with BBI use. After controlling for clinician factors the following positive associations ($ps < 0.05$) were found: 1) intentions post-institute and use at 2 months; 2) intentions and self-efficacy at 2 months and use at 4 months; and 3) BBI attitudes, self-efficacy and intentions at 4 months and use at 6 months. [Note: Multilevel models with lagged predictors will be conducted and presented]. Even with excellent dissemination education, positive attitudes, self-efficacy and intentions to use an EST may decline in the early period of implementation as challenges to usage arise. Implementation support, however, may foster self-efficacy as well as positive attitudes towards and intentions to use an EST, which may be necessary to achieve usage by community providers.

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A030

6:00 PM-7:00 PM

ENHANCING COMPASSION SATISFACTION AMONG REPRODUCTIVE MEDICINE HEALTHCARE PRACTITIONERS IN HONG KONG

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Professional quality of life denotes the concept of compassion satisfaction (CS) and compassion fatigue (CF). There are abundant studies on CF, which can be expressed in terms of Secondary Trauma and Burnout. However, less attention has been placed on CS, which refers to the job satisfaction derived from doing helping work effectively. Since people with higher CS enjoy the work they do, experience positive thoughts and feel contentment, it is crucial especially for the healthcare practitioners who work in the stressful setting of reproductive medicine where patients face a lot of uncertainty and uncontrollability. In view of this, a quasi-experimental study was done in which 25 healthcare practitioners from 11 licensed assisted reproduction clinics including nurses, doctors and embryologists joined a professional training course on infertility counseling. It is comprised of nine 3-hour weekly sessions with self-reflective activities including mindfulness, compassionated meditation and reflections on meaning of life. Participants were invited to complete self-administered questionnaires before and after the course, which consisted Professional Quality of Life measuring both CS and CF, and scales measuring psychological wellbeing. It was found that participants showed significant increase in CS (Pre-course: 33.94 ± 4.4 ; Post-course: 36.35 ± 3.82 , $t = -3.29$, $p < 0.001$) after joining the course, but no significant changes in CF. Besides, those who were with religious beliefs and lower educational level, younger in age, worked longer in general medical setting but shorter in ART field showed greater improvement in CS ($p < 0.05$) after joining the course. To conclude, the training course was proven effective in enhancing the professional quality of life among healthcare practitioners in terms of CS, regardless of no improvement in CF. Thus, in future launching of training course on infertility counseling, CS should be taken into account for consideration.

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A031

6:00 PM-7:00 PM

EVALUATION OF A TRAINING WORKSHOP FOR APPLYING LOGIC MODEL IN DESIGN AND IMPLEMENTATION OF A COMMUNITY-BASED FAMILY PROJECT

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The Logic Model is a theoretical operational framework with a causal pathway to enhance program performance. However, this framework has not been widely applied in community-based program planning.

A train-the-trainer workshop (TTT) aimed to enhance the knowledge, skills, positive attitude towards, and intention to apply the Logic Model in design and implementation of the positive psychology constructs in the subsequent development of family interventions entitled Happy Family Kitchen II Project (HFKII). HFKII is a large-scale community-based project under the FAMILY project, a Hong Kong Jockey Club Initiative for a Harmonious Society, to improve family well-being (family health, happiness and health). This paper presents the application of Logic Model and the evaluation of the TTT.

The two-day TTT workshop was developed and implemented by a multidisciplinary partnership between academics and social service agencies to 61 social service workers and teachers (79% women). We explained the core components within the Logic Model, including inputs, activities/outputs and outcomes/impacts with in-class practice. All participants were expected to apply what they had learnt in their program planning and proposal writing for funding. A total of 31 community-based family interventions were funded, and were delivered for about 2500 individuals from 1000 families were subsequently designed and conducted by the trainees of this TTT. The effectiveness of the TTT was examined by self-administered questionnaire surveys at pre-training, immediately after training, at six months and one year after training, and by focus group interviews at six months after training.

There were statistically significant increases with large to moderate effect size in the trainees' perceived knowledge, self-efficacy and attitudes towards applying the Logic Model and positive psychology constructs in program planning and after training, which were sustained to one-year follow-up. Furthermore, there were statistically significant improvements in family happiness and health of the participants in the HFK community-based family interventions they implemented after training. This TTT provides a practical example of applying and evaluating the Logic Model in community service program planning and implementation.

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A032

6:00 PM-7:00 PM

INTERPROFESSIONAL COLLABORATIVE PRACTICE (IPCP) FOR CARDIOVASCULAR RISK REDUCTION

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Background: The goal of this project is to improve the interprofessional collaborative care to vulnerable patients in the effort to reduce cardiovascular risk. The healthcare services are delivered through a partnership across health profession disciplines, which include advanced practice nurses, pharmacy residents, registered dietitians, community health workers, and licensed social workers, to promote the behavioral changes among the patients with chronic diseases. **Methods:** We used TeamSTEPPS[®] 2.0 curriculum to train our team members. TeamSTEPPS[™] Teamwork Attitudes Questionnaire (T-TAQ), TeamSTEPPS[™] Teamwork Perceptions Questionnaire (T-TPQ), and Collaborative Practice Assessment Tool (CPAT) were used to evaluate the communication and teamwork skills among health care professionals pre- and post the training program. Paired t-test is used to evaluate the total and subscale scores of those evaluation tools. **Results:** A Total of 33 team members, completed the surveys. The subscale for communication of T-TPQ was improved significantly (0.29 ± 0.58 , $p = 0.0109$). The overall (0.36 ± 0.40 , $p < .0001$) and subscales for team structure (0.54 ± 0.75 , $p < .001$), leadership (0.32 ± 0.76 , $p < .05$), situation monitoring (0.40 ± 0.51 , $p < .001$), and communication (0.40 ± 0.64 , $p < .01$) of T-TAQ were improved significantly. The overall (0.32 ± 0.73 , $p < .05$) and subscales for general relationship (0.36 ± 0.94 , $p < .05$), team leadership (0.44 ± 0.99 , $p < .05$), general role responsibilities, autonomy (0.56 ± 1.01 , $p < .01$), and community linkages and coordination of care (0.45 ± 1.03 , $p < .05$) of CPAT were significantly improved. **Discussion:** TEAMSTEPPS training is an effective way to improve the interprofessional collaborative practice for chronic disease management program. We also found that all T-TPQ subscales are highly correlated with all CPAT subscales after training program, which suggests that it would be sufficient to use either T-TPQ or CPAT plus T-TAQ for future Interprofessional practice evaluation.

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A033

6:00 PM-7:00 PM

INTRODUCING BEHAVIORAL HEALTH SOLUTIONS: A TECHNICAL TOOL TO FACILITATE EBT IMPLEMENTATION

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To increase the accessibility of manualized evidence-based treatment (EBT) resources in substance abuse treatment centers, we developed a counselor-facing online program with counselor input called Behavioral Health Solutions (BHS). This new online program (bhsprogram.com) is a searchable database of over 300 materials (e.g., facilitator hand-book excerpts, client-facing worksheets, videos). A sample of 186 counselors was recruited to participate in a randomized controlled trial to test the efficacy of increasing counselors' attitudes towards EBTs as well as their self-reported confidence and implementation of EBTs. Experimental group counselors ($n=92$) had unlimited access to BHS for four months. They were asked to use BHS as often as possible in their work with clients (e.g., preparing for a group or individual session, creating a treatment plan for a new client, updating a treatment plan for an existing client, etc.). They could search for EBT materials in multiple ways such as by specific EBT and/or problem area (e.g., anxiety, depression). Wait-list control group counselors ($n=94$) were given access to BHS after the study. Assessments were conducted at baseline, one month follow up, and four month follow up. Linear mixed models of condition by time did not reveal significant results. These null results may be because of self selection bias – i.e., those who volunteered for the study already implemented evidence-based practices. The data were also collected via self report. Despite the null results for hypothesized outcomes, satisfaction data suggest that the experimental participants liked BHS: 86% of them used the program (median # of searches=34). They appreciated the accessibility to the valuable EBT resources that it provided and said it gave them ideas about different methods and materials to integrate into their clinical work. In addition, experimental group participants significantly rated BHS higher than standard EBT manuals for the following characteristics: Compatibility, Time investment; Specificity, flexibility; Didactic benefit; and Attractiveness. Future researchers of EBT implementation programs are advised to collect data from multiple sources; more comprehensive assessment may increase the likelihood that quantitative results will reflect counselors' reports about the program's usefulness.

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A034

6:00 PM-7:00 PM

JOURNALING BEST PRACTICES TO REDUCE NURSING STUDENT STRESS AND ANXIETY

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Journaling Best Practices to Reduce Nursing Student Stress and Anxiety

Abstract

Nursing students are exposed to complex and challenging situations in the clinical environment which increase their levels of stress and anxiety. Nurse educators should be concerned about these feelings as they may have negative consequences on the health and clinical performance of students. As a coping strategy, journaling can be made accessible to students in their clinical courses. Journaling promotes cognitive processing and expression of emotions that provide self-awareness and a greater understanding of stressful events. The purpose of this project is to determine best practice guidelines in journaling with dissemination to nurse educators as a strategy to reduce stress and anxiety in nursing students within the clinical setting. The theoretical framework of Emotional Intelligence is used as a basis for the scholarly project. Concepts from the framework aid students as they begin to recognize stressful events and become capable of managing personal feelings through journaling. A workshop proved to be an effective approach for presenting nurse educators review of the literature regarding stress and anxiety and best practice guidelines for journaling. Results from the workshop questionnaires indicate knowledge of student stress and anxiety by educators and through awareness of best practices, integration of journaling into their clinical practice.

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A035

6:00 PM-7:00 PM

TEACHING CBT SKILLS TO MEDICAL RESIDENTS

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Teaching Cognitive Behavioral Therapy (CBT) to Primary Care Residents

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Primary care patients are often hesitant to engage in mental health treatment and tend to seek care from their primary care providers (PCPs) rather than mental health professionals. Educating and training PCPs in approaches that address common mental health concerns such as depression, anxiety, and chronic stress may be one method for narrowing gaps in care. There is a paucity of research studying the acceptability and feasibility of a Cognitive Behavioral Therapy (CBT) curriculum with PCPs. The present study sought to develop and evaluate a brief, skills-based CBT curriculum for medical residents to use in primary care. Residents attended a 4-hour interactive course in the application of CBT skills in the primary care setting.

Thirty-one residents were asked to complete brief pre and post surveys assessing CBT knowledge, confidence, intention to use, and course satisfaction. All residents were also observed in role-plays and provided with feedback from the course instructors.

Twenty residents completed pre and post surveys. Residents were highly satisfied with the course. Using paired samples t-tests there were statistically significant improvements in self-reported knowledge of CBT, confidence in using CBT, and intention to use CBT.

Twenty-six residents received ratings on their proficiency in CBT-related skills post-training, which was assessed using an 8 question rating scale assessing interpersonal engagement and effectiveness, introducing and teaching CBT skills, and goal setting. Residents demonstrated highest proficiency in the interpersonal domain. There was a positive correlation between intention to use and their performance on the goal-setting skill; no association was found with the other aspects of their performance. There was no association between self-reported knowledge or self-efficacy in CBT and resident performance.

A 4-hour interactive course is highly acceptable to medical residents. Self-report may not reliably predict future performance; this highlights the importance of the observation and feedback components of the curriculum.

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A036

6:00 PM-7:00 PM

MEASUREMENT OF UNHEALTHY EATING AND WEIGHT CONTROL BEHAVIORS IN MEXICAN AMERICAN WOMEN WITH LOW HEALTH LITERACY

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Unhealthy eating and weight control behaviors (UEWCB) contribute to weight gain, obesity and compromised health. Although UEWCB are highly prevalent in Mexican American (MA) women, they have not been studied in those with low levels of acculturation, SES and literacy, at least in part, because appropriate measurement approaches are not available. The purpose of this study was to test the feasibility of newly developed cell phone application to measure UEWCB in this population. The application was developed using a user-centered iterative design and addressed 9 UEWCB defined by the population. Behaviors focused on form rather than function (e.g. powders versus laxatives; teas versus diuretics) and were displayed using photo images and audio recordings. The feasibility study included 14-days of event and signal-triggered behavioral recordings. Participants were Spanish speaking MA women, 18-45 yrs. living in rural farming communities (N=60). New Vital Signs (NVS) and Short Assessment of Health Literacy (SAHL) scores showed 57% of sample had high likelihood and 32% had possible low health literacy. Adherence to the application protocol was high. Although delivery of signals was somewhat inconsistent due to connectivity problems, 81% (n=47) of the sample responded to at least one signal daily and 100% completed the 14-day recording. The majority of UEWCB recorded were event triggered (81% of behaviors recorded, n=1404) and 82.6% of all recording were completed. Most participants indicated the application was easy to use and they would be willing to use it again (95%, n=57). Ninety-five percent of the sample (n=57) reported at least one episode of UEWCB over the 14-day. Dieting behaviors were most common (93% n=55) and a significant minority reported use of pills (20% n=12), teas (27%, n=16), powders (14%, n=8), and tobacco (3.4%, n=2) to control weight. Results show that MA women with low acculturation, SES and literacy are able to effectively use an image and audio-based culturally sensitive cell phone technology to record health behaviors. Furthermore, results provide initial evidence that UEWCB are not just prevalent in affluent MA women but extend to the most underserved and vulnerable segment of the MA female population.

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A037

6:00 PM-7:00 PM

ACCELERATING THE PACE OF QUALITATIVE COMMUNICATION RESEARCH WITH COMPUTATIONAL TECHNOLOGY

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Communication research is inherently limited by its resource intensive methodology. Most studies rely upon qualitative text analysis, an iterative, lengthy process dependent upon human judgment. Rapid development of computational technology in the past decade offers an efficient alternative. This research examines the utility of two technological approaches to text analysis - topic and classification models. We used topic models to identify the content of adolescent and caregiver speech in an approach akin to qualitative thematic analysis. We used supervised classification models, an approach similar to traditional behavior coding, to characterize adolescent communication behaviors. We analyzed 40 transcribed audio-recordings from weight loss counseling sessions with African American adolescents with obesity and their caregivers. Topic modeling is a data mining technique in which a computer algorithm uses a probabilistic model to identify topics (i.e., themes) based on word probability distributions. Based on the measure of perplexity, we identified 5 topics in a dataset that combined adolescent and caregiver speaking turns. Topics coalesced around changing eating habits, eating challenges, physical activity, commitment to weight loss, and social support for weight loss. Next steps include comparing these results to those obtained via traditional qualitative analysis and comparing adolescent and caregiver speech. In supervised classification modeling, an existing coded data set is used to train an algorithm to code new data. Thus, transcripts were first manually coded with the Minority Youth-Sequential Coding of Process Exchanges, a qualitative coding scheme to identify key communication behaviors. We then examined the accuracy of several classification models (Naïve Bayes, Support Vector Machine, and Latent Class Allocation) in identifying adolescent communication behaviors using lexical features (words occurring in transcripts). All classifiers demonstrated promising results but the Support Vector Machine model performed best, correctly classifying 55.4% of adolescent speaking turns. Next steps include refining the models to improve accuracy by adding contextual dependencies, bigram lexical features, and semantic features. In sum, these approaches offer efficient alternatives to labor intensive traditional qualitative coding.

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A038

6:00 PM-7:00 PM

AN ETHOGRAM TO QUANTIFY OPERATING ROOM BEHAVIOR

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The operating room (OR) is a highly social and hierarchical setting where interprofessional team members must work interdependently under pressure. Unresolved conflicts upset team cohesion, reduce their effectiveness, and potentially initiate events that may yield adverse patient outcomes.

The social and behavioral sciences have offered little insight into OR social behavior. This insufficiency is due primarily to methodological limitations that interfere with conducting studies in the OR. In this paper, we offer a method from ethology that can be used to quantify the interpersonal interactions of OR team members.

We conducted observations in the OR to create an ethogram, a catalog of all our subjects' observable social behaviors. We continually refined the ethogram to attain the version reported here. The ethogram was then assessed for its feasibility and interobserver reliability based on Cohen's Kappa.

We confirmed the feasibility and reliability of using an ethogram in the OR setting. The high interobserver reliability (89% for the recorded actor identities and 81% for the behavior patterns) indicates that the proposed methodology—an ethogram—can be used to yield largely objective, descriptive, quantitative data at field sites as complex and untried as the OR.

The ethogram we designed was feasible to use; it reliably catalogued observable social behaviors occurring during surgical procedures. In the future, studies could be designed using data derived from the ethogram to provide hospital safety and quality officers with a numerical representation of OR behavior that can be used to initiate improvements. The ethogram we developed may be used in any OR, and the method we espouse has potential for other behavioral research conducted in healthcare.

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A039

6:00 PM-7:00 PM

AN EXAMINATION OF PSYCHOMETRIC PROPERTIES OF THE CHINESE VERSION OF THE POSITIVE AND NEGATIVE SYNDROME SCALE FOR SCHIZOPHRENIA

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Background: The Positive and Negative Syndrome Scale (PANSS) is commonly used for assessment of severity of schizophrenic symptoms. In view of the ambivalent results over the factor structure of the scale, the present study aimed to examine the psychometric properties of PANSS by examining the consensus five-factor model by Wallwork in Chinese schizophrenic patients. **Methods:** Participants were 146 Chinese patients with schizophrenia (mean age = 54.0 years, $SD = 8.5$) who resided in a rehabilitation hostel. They completed the Chinese PANSS, which is a 20-item, 7-point scale of psychiatric symptoms with five proposed factors. The five-factor structure of the PANSS and its convergent validity was evaluated via exploratory structural equation modelling using weighted least square estimator in Mplus 7.2. **Results:** The five-factor consensus model fitted the data significantly better than a four-factor model ($\Delta\chi^2(16) = 64.4, p < .01$). Overall, the five-factor model provided an excellent model fit ($\chi^2(100) = 119.8, p = .09$, CFI = .99, TLI = .99, RMSEA = .04, SRMR = .03). The five factors were weakly to moderately correlated ($r = .20 - .57, p < .05$) except for positive-negative ($r = .04$), negative-cognitive ($r = .19$), and depression-cognitive ($r = .03$). All of the five factors showed satisfactory reliability. **Discussions:** These results supported the use of the five-factor consensus model derived by Wallwork for PANSS in the Chinese context. Future studies should apply the PANSS in the Chinese patients with schizophrenia for assessment of psychiatric symptoms.

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A040

6:00 PM-7:00 PM

APPLYING MIXED EFFECTS LOCATION SCALE MODELING TO EXAMINE THE RELATIONS BETWEEN MOTHERS' AND CHILDREN'S SEDENTARY BEHAVIOR

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Background: Engaging in prolonged sedentary behavior can have negative health consequences for children. Although maternal modeling of behavior is thought to play a role in children's physical activity, maternal influences on children's sedentary behavior are less understood. Lab-based studies indicate that frequent breaks in sedentary behaviors (SB) improve acute metabolic outcomes in children. In particular, it is unknown whether mothers' hourly and typical levels of, and variation in SB are related to children's sedentary behavior. **Methods:** Mother-child dyads ($N=167$, Children: 51.6% female; 9.6 ± 0.9 yo; Mothers: 41.2 ± 6.1 yo) wore Actigraph accelerometers on the hip for 7 days. Mixed-effects location scale models were used to examine how maternal SB is related to levels of and variability (i.e., how consistent or erratic) in children's SB. **Results:** For mothers who show, on average, greater SB than other mothers, their children did not show greater minutes of SB ($est=0.06, p=0.40$) or greater variability of SB ($est=0.001, p=0.99$). However, for a given mother, when a mother had more than her average SB within a 2-hour window, her child concurrently had more minutes of ($est=0.20, p < .001$) and greater variability in SB ($est=0.20, p=.007$). **Discussion:** This novel modeling strategy is a comprehensive approach to formally test whether mothers' SB affects the levels of and variability in her child's SB. Although it is not possible to rule out reverse causation in this cross-sectional study, these findings provide guidance for potential interventions to break up mothers' sedentary activity throughout the day, which may impact children's sedentary behavior as well.

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A041

6:00 PM-7:00 PM

CONFIRMATORY FACTOR ANALYSIS OF THE MULTIDIMENSIONAL BODY-SELF RELATIONS QUESTIONNAIRE

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Although widely used for assessing body image, a paucity of research has examined the factor structure of the Multidimensional Body-Self Relations Questionnaire (MBSRQ; Brown, Cash & Mikulka, 1990; Cash, 2000). Thus, confirmatory factor analyses were undertaken to explore the 7-factor structure of the MBSRQ (Brown et al., 1990), as well as the 5-factor MBSRQ-Appearance Scales (Cash, 2000). Data were collected using an online survey system resulting in a convenience sample of U.S. adults (men: $n = 773$, mean age = 47.93 years, $sd = 6.13$; women: $n = 1445$; mean age = 42.45 years, $sd = 14.13$). Using Mplus (version 7), missing data was addressed using multiple imputation and the Santorra-Bentler chi-square was computed to address multivariate non-normality. Acceptable model fit criteria were established a priori (Hu & Bentler, 1999).

Among women, chi-square difference tests revealed that multi-factor models fit the data better than a 1-factor model. However, model fit indices were still below the criteria for both the 7-factor model [$SB \chi^2 = 17178.55, df = 2271; RMSEA = 0.08; CFI = 0.57; SRMR = 0.15$] and the 5-factor MBSRQ-AS [$SB \chi^2 = 24267.75, df = 2308; RMSEA = 0.09; CFI = 0.37; SRMR = 0.19$].

Results among men were comparable. Chi-square difference tests revealed that multi-factor models fit the data better than the 1-factor model. However, model fit indices still were below criteria for both the 7-factor model [$SB \chi^2 = 10,116.43, df = 2271; RMSEA = 0.08; CFI = 0.57; SRMR = 0.15$] and the 5-factor MBSRQ-AS [$SB \chi^2 = 14092.50, df = 2308; RMSEA = 0.09; CFI = 0.35; SRMR = 0.19$].

In summary, there was insufficient statistical support for either the 7-factor structure of the MBSRQ or the 5-factor MBSRQ-AS structure. Confirmatory factor analysis should be used to refine this measurement tool to improve its utility in future research and practice.

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A042

6:00 PM-7:00 PM

CROSS-CULTURAL VALIDATION OF THE REVISED SCALE FOR CAREGIVING-SELF-EFFICACY

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Self-efficacy beliefs are strong predictors of health outcomes in family caregivers. A common measure used in this literature is the Revised Scale for Caregiving Self-Efficacy (RSCSE; Steffen et al., 2002). This presentation summarizes the cross-cultural reliability and validity of different translations of the RSCSE used internationally. We have examined 23 published studies utilizing non-English translations of the RSCSE. Results will be presented for internal consistency, relationships among the subscales, and support for convergent/discriminant validity. We hypothesized that RSCSE psychometric properties and validity indices are congruent across international caregiving samples assessed with different translations. Research conducted on international samples using translated versions of the scale yield reliability and validity indices that support use of the scale in those countries, and support the cross-cultural utility of the self-efficacy construct.

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A043

6:00 PM-7:00 PM

DEVELOPMENT OF A NOVEL SLE KNOWLEDGE QUESTIONNAIRE

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Systemic lupus erythematosus (SLE) is a multisystem autoimmune disorder in which an overactive immune system causes serious complications (e.g. NIAMS, 2006). SLE is an invisible chronic illness resulting in physical and mental health concerns, often accompanied by feelings of uncertainty, hopelessness, and helplessness, and a poor quality of life (Freire, et al., 2011). Significant feelings of isolation and perceived stigmatization are common in individuals with invisible chronic illnesses (Beckerman et al., 2011; Hale et al., 2006; Kool et al., 2010; Kool et al., 2012). Misconceptions of illness knowledge have been found to be significantly and positively associated with stigma (Yang et al., 2006). To assess community knowledge of SLE, the lupus knowledge questionnaire (LKQ) was created.

Focusing on methodological questionnaire design, we utilized a systematic instrument development procedure designed by the European Organization for Research and Treatment of Cancer's (Johnson et al., 2011). Based on this method, four phases were used to design the LKQ. In phase 1, patients ($N=15$) and experts ($N=5$) were interviewed to inform the content of the questions and an inductive thematic analysis of the data was utilized (Braun & Clarke, 2006). A complete but provisional version of the LKQ was designed in the second phase where final questions were generated using a True/False/Don't Know response style to discourage guessing and provide valuable information upon "don't know" responses being answered (Stanley & Hopkins, 1972; Kline, 2005). Phase 3 involved this version being examined by experts and a pilot sample of university students to ensure accuracy and clarity. Community validation of the LKQ occurred during phase 4.

Novel questionnaires, like the LKQ, may be a tool that can be utilized to explore knowledge gaps and identify specific targets for educational and intervention techniques as a means to assess the deficit of knowledge in SLE. Keeping the quality of life of those living with SLE as the priority.

Key words: systemic lupus erythematosus (SLE), knowledge questionnaire

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A044

6:00 PM-7:00 PM

EHR NOTE PARAPHRASING FOR NOTEAID EVALUATION

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Introduction: Allowing patients to access their electronic health record (EHR) notes has the potential to improve clinical outcome. However, studies have shown that EHR notes confuse patients. We developed NoteAid, a biomedical natural language processing system that identifies medical jargon in EHR notes and links it to definitions. In this paper we evaluate whether NoteAid improves EHR comprehension. **Methods:** We recruited 40 subjects. Each read five de-identified EHR notes (an average of 17 sentences each note) with or without NoteAid and then paraphrased the main content of each note using his/her own words. We counted the number of jargon and lay terms in each paraphrase. An unbiased physician evaluated each paraphrase for its correctness and completeness on a scale from -3 (poorest) to +3 (best). We used t-test and non-parametric Spearman correlation coefficient for statistical analyses. This study was approved by the UMass IRB. **Results:** The average number of sentences for a paraphrase is 3. Without NoteAid, subjects tended to reuse the medical jargon (1.85 jargon terms per note); with NoteAid, subjects tended to use lay language (1.61 lay terms per note), a statistically significant difference ($p < 0.001$). The completeness is better with NoteAid however the difference is not statistical significance (-0.43 and -0.66 with and without NoteAid, $p=0.06$). Correctness was lower with NoteAid (-1.04±0.93 with NoteAid, -0.78±0.89 without, $p < 0.05$). Correctness and completeness positively correlated with number of jargon terms identified by NoteAid ($\rho = 0.9$, $p < 0.05$). **Discussion:** NoteAid improved subjects' use of lay terms. Both correctness and completeness were poor. Completeness was better with NoteAid while correctness was better without; the results are not surprising because each paraphrase contains much less information than the EHR note. Moreover, the physician prefers the use of medical jargon than lay term. In future work we will develop a comprehensive test for evaluating EHR comprehension.

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A045

6:00 PM-7:00 PM

IDENTIFYING & VISUALIZING PARTICIPANTS' ENGAGEMENT TRAJECTORY PATTERNS IN LARGE-SCALE WEB BEHAVIORAL INTERVENTION

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Introduction: Internet-based behavioral interventions can cost-effectively reach general smoking populations but we know little about how to adequately characterize individuals' dynamic online engagement with an intervention. Longitudinal data from such interventions are unstructured, high dimensional and zero-inflated. Our study attempts to develop a new trajectory pattern recognition (PR) method to tackle these complex data. **Method:** Our approach was demonstrated on a large-scale two-arm NIH-funded intervention for smoking cessation (Quit-Primo, N:1320; White: 85%; Female: 65%; < 4 years of college: 78%). Both arms were exposed to 6 common components with the intervention arm having 3 extra components: My Mail for smokers to communicate with a tobacco treatment specialist; Our Advice for experts to engage the smokers; and Our Community for smokers to view dialogue from peers and ex-smokers through a resource website. We created monthly repeated measures to capture smokers' engagement changes with each component over time. Our PR algorithms integrated the theory of fuzzy clustering, between-stress mapping and trajectory characterization to identify and visualize engagement patterns. Simulated data based on zero-inflated Poisson models and learnt pattern parameters were used to evaluate the findings. **Results:** Four types of engagement patterns were identified ($N_{p1}=182$; $N_{p2}=284$; $N_{p3}=490$; $N_{p4}=364$). No significant differences were detected among age, education, gender, ethnic, intervention or internet-use subgroups across these patterns. Engagement with each intervention component significantly differed between the near-zero engagement pattern group ($N_{p3}=490$) and other three ($p < .0001$); the intensity of engagement varied over time among pattern groups. The 6-month cessation rates differed by pattern groups, with the more consistent engagement group ($N_{p2}=284$) achieving the higher cessation rates compared to other three ($p < .015$). **Conclusion:** Our PR method can help characterize online engagement patterns and clarify the efficacy of web behavioral interventions.

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MERITORIOUS AWARD WINNER A046 6:00 PM-7:00 PM

PREDICTORS OF CALORIC INTAKE IN OVERWEIGHT AND OBESE INDIVIDUALS: FOOD CUE SENSITIVITY AND INHIBITORY CONTROL

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Modern obesogenic environments in which high-calorie foods are readily available make it especially difficult for individuals sensitive to environmental food cues to maintain a healthy weight. The ability to inhibit automatic responses has been shown to protect against weight gain despite preferences for these foods. The current study examined the relationship between food cue sensitivity and the ability to inhibit automatic responses (inhibitory control, IC) to predict caloric intake in overweight and obese adults. We expected IC to predict caloric consumption (i.e., high control related to lower consumption). We also hypothesized that food cue sensitivity would interact with IC such that food cue sensitivity would be a stronger predictor of caloric intake for those with low IC compared to those with high IC. Prior to entering a behavioral weight loss program, overweight and obese participants ($n=171$) completed several self-report measures assessing facets of food cue sensitivity: hedonic hunger (Power of Food scale, PFS), food craving (Food Cravings Questionnaire, FCQ), acceptance of cravings (Food Craving Acceptance and Action Questionnaire, FAAQ), restraint, disinhibition, and hunger (Three Factor Eating Questionnaire, TFEQ). Participants also completed a behavioral measure of IC (D-KEFS Color-Word Interference Task) and three days of the Automated Self-Administered 24-hour Dietary Recall. IC did not predict total caloric consumption when controlling for age, BMI, IQ, and gender. However, IC moderated the effects of TFEQ (Emotional Eating $\beta = .26, p = .01$; Internal Disinhibition $\beta = .22, p = .02$; Uncontrolled Eating $\beta = .27, p = .01$; Cognitive Restraint $\beta = .22, p = .01$; External Disinhibition $\beta = .23, p = .01$), PFS ($\beta = .24, p = .01$), FAAQ ($\beta = .21, p = .02$), and FCQ (cues subscale $\beta = .44, p < .05$) on caloric intake. Interactions were such that IC predicted caloric intake for those with reduced sensitivity to food cues (better IC associated with lower intake), whereas caloric intake was elevated for all those with high food cue sensitivity. These findings suggest that training IC in obese individuals who are highly sensitive to food cues may not be an effective intervention for reducing caloric intake, and treatment could be customized for those with higher- versus lower food cue sensitivity.

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A047 6:00 PM-7:00 PM

READY, SET, SCAN: ACUTE CHANGES IN MOOD AFTER VISUAL BODY SCAN AMONG BARIATRIC CANDIDATES

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Perceptual component of body image is typically assessed using figure rating scales. The body scanner is a new and innovative technology that enables accurate volumetric measurements. This study is the first to examine changes in mood after providing visual feedback from a body scanner among bariatric candidates. Mood (i.e., anxiety, depression, anger, and happiness) was assessed before and immediately after the body scan using the Mood Visual Analog Scale (MVAS). Aspects of body image were assessed with the 34-item, Multidimensional Body-Self Relations Questionnaire – Appearance Scales (MBSRQ-AS). It was hypothesized that patients would report worsening mood after viewing a preoperative scan image because it was providing an accurate depiction of their body. A series of repeated measures ANOVA and correlations were conducted on 56 bariatric surgery candidates (18.6% Male and 79.7% Female, Mean age= 43.21, MeanBMI= 47.93). While results showed that anxiety did not change, $p = .819$, all other mood scores improved after viewing the body scan: depression $F(1,55) = 12.091, p = .001$, partial $\eta^2 = .18$; anger $F(1, 55) = 50.842, p < .001$, partial $\eta^2 = .48$; body dissatisfaction $F(1, 55) = 507.089, p < .001$, partial $\eta^2 = .90$; and happiness $F(1, 55) = 59.496, p < .001$, partial $\eta^2 = .52$. Improvement in depressed mood was negatively associated with Appearance Evaluation subscale of MBSRQ-AS $r = -.289, p = .037$ and improvement in happiness was positively associated with less Overweight Preoccupation $r = .284, p = .042$. Results suggest that positive aspects of body image (i.e., feeling positive and more satisfied with appearance and less preoccupied with dieting and eating restraint) may buffer acute negative changes in mood. Implementing preventative interventions that address body image may minimize acute changes in mood, which in turn could enhance positive coping skills. This ongoing study will continue to assess changes in mood after visual body scanner feedback at 3, 6, 12 month postoperative in hopes to understand the long-term psychological outcomes among bariatric patients.

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CITATION AND MERITORIOUS AWARD WINNER A048 6:00 PM-7:00 PM

REDUCING SUGAR-SWEETENED BEVERAGE INTAKE IN PRESCHOOL-AGED CHILDREN: RESULTS FROM THE SMART MOMS MHEALTH INTERVENTION

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Background: Two important determinants of childhood obesity are sugar-sweetened beverage (SSB) consumption and maternal weight. Early childhood is an opportune time to encourage reduced SSB intake and healthy dietary behaviors among preschool-aged children and their mothers, but traditional interventions have had limited success due to mothers' unique barriers to participation. **Methods:** The 6-month Smart Moms randomized controlled trial tested the efficacy of an innovative smartphone-based intervention to reduce child SSB intake and maternal weight compared to a waitlist control group. The Smart Moms program was delivered using a low-intensity approach that included one face-to-face group session, mobile-optimized website lessons weekly for the first 3 months and biweekly for the final 3 months, and 3-4 text messages each week. The primary intervention goal was a reduction in child SSBs. The intervention was also designed to help mothers lose modest amounts of weight without detailed monitoring of calories. Mothers self-monitored child SSB intake, their own intake of SSBs and "red" (high calorie) foods, and weighed themselves daily. Each week, they submitted this information via text message and received feedback. Assessments included a 24-hour dietary recall to measure SSB consumption and objectively measured weight and height. **Results:** Participants included 51 overweight mothers (BMI=32.6±5.3) and their children (4.5±0.8 yrs). At 6 months, 89% of participants (excluding 4 medical withdrawals) returned for their assessment. Children in Smart Moms had a greater reduction in daily SSBs than children in the control group (-7.8 f. oz ± 10.2 vs. -0.7 f. oz ± 7.8; $p=.01$). Mothers in Smart Moms had a weight loss of 2.3% (±5.3) compared to a gain of 0.8% (±2.4) in the control group ($p=.02$). Participants submitted an average of 21.5 (±4.3) of 24 weeks of self-monitoring data and 100% of intervention participants reported that they would recommend the program to a friend. **Conclusion:** Smart Moms produced significant reductions in child SSB intake and maternal weight. This suggests that mobile-delivered interventions with low time demands can be an effective way to engage mothers to participate and improve dietary behaviors that impact both maternal and child weight.

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A049

6:00 PM-7:00 PM

RELATION OF IMPROVEMENTS IN BINGE EATING SEVERITY TO DIETARY SELF-MONITORING AND WEIGHT CHANGE IN BEHAVIORAL OBESITY TREATMENT

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Previous studies have found that 10%–55% of adults seeking treatment for obesity report binge eating, yet the relation of changes in binge eating to treatment adherence and weight loss remains unclear. In the current investigation, we examined weight changes and dietary self-monitoring among individuals who did or did not experience clinically meaningful improvements in binge eating. The study sample included 151 adults (female = 88.7%; $M \pm SD$: age = 52.5 ± 10.3 years, BMI = 36.9 ± 4.0 kg/m²) seeking treatment for obesity who reported eating patterns indicative of Moderate (73.5%) or Severe (26.5%) binge eating as measured by the Binge Eating Scale (BES). After six months of treatment, we identified three groups of individuals based on pre- to posttreatment changes on the BES. Group A ($n = 10$) was comprised of those who improved from the Severe to Moderate binge eating category; Group B ($n = 113$) included those who improved from Severe or Moderate to Mild/No binge eating; and Group C ($n = 28$) encompassed those who reported no clinically meaningful improvements. Results of one-way ANOVAs indicated significant effects of group on percent weight change, BMI change, percent of days with calorie records completed, and percent of days with calorie goals met, all $ps < .001$. Compared to those who did not improve (Group C), Bonferroni-adjusted post hoc analyses showed that Group B experienced a greater percent weight loss ($M \pm SD$: $-10.6\% \pm 6.0$ vs. $-2.9\% \pm 5.1$), a greater decrease in BMI (-3.9 kg/m² ± 2.3 vs. -1.1 kg/m² ± 1.9), a greater percentage of days with dietary self-monitoring records completed ($76.3\% \pm 22.7$ vs. $44.6\% \pm 27.6$), and a greater percent of days with caloric intake goals met ($55.8\% \pm 22.9$ vs. $29.3\% \pm 23.9$), all $ps < .001$. Group B also met their calorie goals on a greater percent of days than Group A ($35.1\% \pm 15.9$), $p = .044$. Collectively, these findings suggest that participants who demonstrate improvements from moderate or severe binge eating to mild or no binge eating have greater treatment adherence and attain larger weight losses than those whose binge eating status remains in the moderate or severe categories. Additional research is needed to ascertain the directionality of these associations.

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A050

6:00 PM-7:00 PM

RELATIONSHIP BETWEEN PARENTAL PERCEPTION OF THEIR CHILD'S WEIGHT AND CHILD BMI IN KOREAN AMERICAN FAMILIES

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The discrepancy between parental perception of their child's weight and actual weight has been observed across diverse racial/ethnic families. The misperception, particularly underestimation of children's weight, is associated with overweight and obesity in children since parental perception of their child's weight may influence parental decisions about food choices and physical activity for their children. However, limited research has been conducted to examine parental perception of their child's weight among KA families. The purpose of the study was to examine the relationship between parental perception of their child's weight and child BMI in KA families. In a cross sectional study, mother-reported height and weight and measured height and weight of children were compared. Mothers' perception about their child's body size was also assessed for descriptive purpose. The difference between estimated BMI based on mother-reported and actual BMI was used for data analysis. Data were analyzed with bivariate and multivariate analyses using mixed effects models. The sample included 170 KA children (mean age 10.9 \pm 2 years; 52.4% girls; mean BMI: 19.3 ± 3.2 kg/m²; 28.7% overweight or obese) and 137 mothers (mean age 42.73 \pm 9 years; mean BMI 23.13 \pm 1.1). More than half of mothers (60.5%) accurately perceived their child's weight status, while 34.4% of mothers underestimated their child's weight status. The estimated child BMI was 19.1 ± 3.8 kg/m², which was not significantly different from the actual BMI of children. Greater parental underestimation of their child's BMI was significantly associated with higher child BMI Z-score controlling for mother BMI and family annual income ($\beta = 0.06$, $p = .04$). The significant relationship between KA mothers' underestimation of their child's weight and child BMI is consistent with the finding of other racial/ethnic families. Strategies to improve the accuracy of parental perception of children's weight in order to prevent childhood overweight and obesity in KA families are needed.

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CITATION AND MERITORIOUS AWARD WINNER
A051

6:00 PM-7:00 PM

RISK FACTORS FOR INCREASED PREVALENCE OF OBESITY IN CHILDREN DIAGNOSED WITH AUTISM SPECTRUM DISORDERS

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Background: Current estimates of obesity in autism spectrum disorders (ASD) and factors associated with increased weight in those so diagnosed are still poorly understood. **Objectives:** Using most current data, to determine if children diagnosed with ASD are more likely to be obese than those not so diagnosed and examine sociodemographic and behavioral factors that may account for any observed differences. **Methods:** Data from the 2011 National Survey of Children's Health (NSCH) was used to investigate risk factors for children ages 10-17 ($n = 95,677$) that have been diagnosed with ASD ($n = 1,624$). Binary logistic regression models examined the impact of ASD diagnosis and other factors (behavioral, sociodemographic) on likelihood for obesity. **Results:** Children diagnosed with ASD were more likely to be obese than children not so diagnosed (OR = 1.4; 95% CI = 1.2, 1.6). Among those diagnosed with ASD, both moderate (OR = 1.5, 95% CI = 1.1, 2.1) and severe (OR = 1.6, 95% CI = 1.0, 2.5) levels of ASD symptoms were associated with increased risk for obesity. Younger children with ASD were nearly 3 times more likely (95% CI = 2.0, 4.2) to be obese than their older peers. Males with ASD were more likely to be obese compared to females (OR = 1.6; 95% CI = 1.0, 2.6) as were children with ASD living below the federal poverty level (OR = 1.9; 95% CI = 1.2, 3.0) compared to those above. Children with ASD who reported daily physical activity had half the risk for obesity compared to those with little to no daily activity (95% CI = 0.3, 0.9). **Conclusion:** Youth diagnosed with ASD are at greater risk for obesity than those not so diagnosed. Symptom severity and physical activity appear to be among the key factors associated with obesity in ASD youth, and males of younger age living in poverty might be particularly at risk for obesity. Early identification of those at greatest risk may aid in the prevention and treatment of overweight and obesity in youth with ASD.

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A052

6:00 PM-7:00 PM

SEDENTARY BREAKS, NOT SEDENTARY TIME, ARE ASSOCIATED WITH BODY MASS INDEX

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More than one third of older adults in the United States are obese, as defined by a body mass index (BMI) ≥ 30 . Unsurprisingly, older adults are frequently sedentary—a behavior that is strongly associated with poor body composition, increased risk of chronic disease, and low quality of life. Even individuals who meet physical activity guidelines may be negatively affected by prolonged bouts of sitting. However, recent evidence suggests the cause of these adverse effects may be more complex than simply the total time spent sedentary. The present study examined associations between daily sedentary breaks and body composition, as assessed by BMI, in a cross-sectional sample of older adults. A community-sample of older adults was recruited to participate in a 6-month home-based exercise trial. Participants ($N = 95$, M age = 70.83 ± 5.46) wore an accelerometer for 7 consecutive days and completed a battery of anthropological measurements at baseline. Sedentary time (< 100 counts/min) and moderate-to-vigorous physical activity (MVPA; 1952–9498 counts/min) were measured via accelerometry. Sedentary breaks were identified as an interruption in sedentary time (≥ 100 counts/min) for one or more minutes. A linear regression analysis using BMI as the dependent variable and sedentary time and breaks, MVPA, and age as predictors was significant [$F(4,90) = 5.99$, $p < .001$, $R^2 = .21$]. More sedentary breaks per day ($\beta = -.39$, $p < .001$) and being older ($\beta = -.25$, $p = .01$) were significantly associated with lower BMI. Furthermore, these results were independent of average daily time spent sedentary ($\beta = -.05$, $p = .63$) and average daily MVPA ($\beta = -.08$, $p = .47$). Our findings suggest the number of interruptions in sedentary time has a significant relationship with BMI, despite the average amount of time spent sedentary or in MVPA. These results add to previous research and further underscore the risks of prolonged, uninterrupted sitting time. Future behavioral interventions would benefit from targeting sedentary breaks as a mechanism for improving BMI.

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A053

6:00 PM–7:00 PM

SEXUAL MINORITY WOMEN'S PERCEPTIONS ABOUT BODY WEIGHT AND STRESS: A QUALITATIVE STUDY WITH RURAL SEXUAL MINORITY WOMEN

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Background: Sexual minority women (SMW) have twice the rate of obesity as heterosexual women, but the existing empirical evidence about the psychosocial drivers of this disparity is based on urban samples. However, it is possible that overweight/obesity may have significantly different psychosocial drivers among rural, partnered, SMW, than urban SMW, due to the challenging social and geographic conditions that characterize rural regions. Little empirical evidence exists about psychosocial correlates of overweight/obesity among partnered, SMW, residing in rural regions. Such information is vital to formulating and testing effective prevention interventions for rural SMW. In this qualitative study we investigated the psychosocial drivers of overweight/obesity disparities among partnered, rural, SMW women. **Methods:** Semi-structured interviews were conducted with partnered, SMW, residing in rural regions located in either East Tennessee to explore perceptions about overweight/obesity as a health risk, minority stress, and partner influences that might contribute to overweight/obesity. Interviews were audio-recorded and transcribed. Framework analysis was used to code transcriptions. **Results:** Discrimination and stress emerged as dominant themes. SMW reported experiences with sexual orientation-related discrimination and stress that influenced weight-related health behaviors and mental health. SMW also reported negative and stressful interactions in clinical settings with healthcare providers regarding their bodyweight and sexual orientation. Most SMW did not perceive overweight as a health risk, but did perceive institutional and interpersonal sexual orientation-related discrimination as threatening to health. SMW reported that partner's perceptions about bodyweight were influential in their own perceptions and attitudes about bodyweight. **Conclusions:** Rural SMW experiences with sexual orientation-related discrimination and stress may be contributing to disparities in overweight/obesity. Weight-management interventions have been recommended previously by others, but it could be that for weight-management interventions to be effective for this sub-group, stress management interventions must first be implemented.

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A054

6:00 PM–7:00 PM

SOCIAL COMPARISON ORIENTATION PREDICTS WEIGHT CHANGE IN A GROUP-BASED BEHAVIORAL WEIGHT LOSS PROGRAM

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Social comparisons (i.e., self-evaluations relative to others) are thought to influence success in group-based weight loss programs, though it is not yet clear for whom and what kind of comparisons are beneficial. Comparisons to better-off others (i.e., upward) may be either inspiring or discouraging for weight loss efforts; comparisons to worse-off others (i.e., downward) may reinforce current weight loss behaviors, or highlight the possibility for weight loss failure. This study tested the predictive value of social comparison orientation (SCO; interest in/tendency to make comparisons) for weight loss in a behavioral weight loss program. Overweight/obese adults ($n=161$, $M_{age}=54$, $M_{BMI}=34.4$ kg/m²) completed a self-report measure of SCO prior to treatment, and had their weight measured at baseline, 6 months, 12 months, 18 months, and 24 months. On average, participants showed 10% weight loss (from baseline) at 12 months and maintained 8% weight loss through 24 months. Percent weight loss at 24 months was somewhat higher among participants who endorsed stronger (vs. weaker) overall SCO at baseline ($r=-0.21$, $p=0.07$). Controlling for group and treatment condition, multilevel mixed models showed no main effects of baseline SCO on percent weight loss over 24 months ($p>0.15$). However, baseline upward SCO moderated the effect of time on percent weight loss over 24 months ($p=0.03$). Those who endorsed stronger (vs. weaker) baseline upward SCO lost less weight during the treatment period and regained more weight post-treatment; a 1-SD increase in upward SCO score was associated with 0.3% less percent weight loss. Downward SCO did not show a symmetrical positive relationship with weight loss ($p>0.20$). Findings demonstrate the predictive value of SCO for success in group-based weight loss treatment; participants prone to upward comparisons may be less successful than those who are not, perhaps because they feel discouraged after comparisons with successful others and temporarily abandon their weight control attempts in response. Detailed assessment of comparisons during treatment will inform targeted improvements to group-based behavioral weight loss programs.

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A055

6:00 PM–7:00 PM

SOCIAL CONTEXTUAL INFLUENCES FOR WEIGHT MANAGEMENT AMONG PUBLIC HOUSING RESIDENTS USING QUALITATIVE PHOTOVOICE METHODOLOGY

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For health disparity-facing populations, weight management is a national health priority. Using frameworks to guide intervention development, such as the Social Contextual Model are effective in promoting behavioral changes among health disparity-facing groups. Innovative qualitative techniques such as photovoice, which uses photographs taken by 'insiders' (in this case, public housing residents), allows access to social and physical conditions in settings not typically available to researchers (e.g., apartments and neighborhoods). This approach is ideal for community-based research, but has not often focused on adult weight management. The objective of this study was to identify social contextual influences on weight management among residents of public housing using photovoice. Four, 2-hour group sessions were held in each of four housing developments (for 16 total sessions). Participants went on 3 'photo missions' taking photographs about 1) what being healthy means to them, 2) what makes it difficult or 3) what would motivate them to eat healthy foods and be physically active. Participants then discussed their photographs in the sessions and wrote a brief narrative about their favorite photograph. Participants were overweight (BMI >25) residents who spoke either English or Spanish ($n=28$). The majority was female (82%); half were African American or Black (50%) and had completed high school or less (46%). Qualitative analysis of the transcripts revealed about half of the participant-identified influences on weight management were at the individual (e.g., self-control, boredom, knowledge, finances); while the other half were at the interpersonal (e.g., caring for dependents, bonding activities); community (e.g., corner/grocery stores, transportation, development task force); organization (e.g., living conditions); and policy levels (e.g., health insurance, food production practices). Themes did not differ greatly between developments that were located closer or farther away from supermarkets. Findings revealed multiple influences on weight management among public housing residents. Furthermore, because photovoice was found to be a feasible and engaging activity during the group sessions, it may be useful for informing intervention development, as well as an innovative strategy to be incorporated into intervention delivery.

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A056

6:00 PM–7:00 PM

SPOUSAL SUPPORT AND MOTIVATION TO MAKE LIFESTYLE BEHAVIORAL CHANGES AFTER A DIAGNOSIS OF BARRETT'S ESOPHAGUS

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Barrett's Esophagus (BE) results from chronic gastroesophageal reflux disease and is a major risk factor for the development of esophageal adenocarcinoma (EAC). Obesity and lifestyle factors may interact to modulate progression of BE to EAC. Lifestyle counseling to achieve a healthy body weight and engage in physical activity (PA) is the standard of care for newly diagnosed patients. The cost of non-adherence is high and may include poorer quality of life, increased risk of esophageal resection, and possibly cancer. Self-determination theory posits that people have a fundamental need for autonomy (i.e., sense of choice), competence, and relatedness to others. Because spouses/partners are in regular contact with patients, they are in a prime position to support lifestyle behavioral changes; however, they may not always be autonomy-supportive. Rather, they may engage in social control tactics (e.g., criticizing, nagging) that could increase patients' controlled motivation (i.e., behaving to avoid guilt or because of a demand from an external agent) and undermine attempts to make needed lifestyle changes. This study examined the effects of spousal relationships and support on BE patients' autonomous and controlled motivation to engage in recommended lifestyle changes. One-hundred couples completed surveys about their relationships and lifestyle behaviors following the patient's initial endoscopy for BE. Thirty-two percent of patients and partners obtained more than the recommended 35% of their energy from fat; 70% were inactive or insufficiently active. Uncontrolled reflux was highly prevalent among patients and significantly correlated with a lack of PA ($p=.01$). Higher levels of patient dyadic adjustment were associated with greater autonomous motivation to eat a healthy diet and engage in PA ($p<.02$). Greater spouse social control was significantly ($p<.01$) associated with patients' controlled motivation to eat a healthy diet and engage in PA. Patients in relationships characterized by greater dyadic adjustment were more autonomously motivated to make lifestyle changes, whereas patients whose partners engaged in social control reported more controlled motivation. Lifestyle behavioral interventions that target the couple and include a component that teaches partners to minimize negative social control tactics may thus be beneficial for this population.

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A057

6:00 PM-7:00 PM

STAKEHOLDER PERSPECTIVES ON THE DEVELOPMENT OF AN IN-HOME OBESITY PREVENTION INTERVENTION: A NEEDS ASSESSMENT

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Early childhood intervention is critical to the development of positive eating and exercise habits and prevention of obesity. In particular, there is a need for intervention in low-income and ethnic/racial minority families. CHIP (Children's Health Investment Project) serves low-income families with children ages 0-6 years and increases access to care via a home visitation model. We partnered with CHIP to develop an in-home obesity intervention for low-income families with children aged 0-2 years. The goal of this study was to examine perspectives of key stakeholders to inform intervention development. Focus groups (n=3) were conducted with three stakeholder groups from CHIP: mothers (n=5), outreach workers (n=6), and nurses (n=4). A focus group guide was developed to guide facilitators; key sections addressed a variety of issues surrounding feasibility and implementation including desired program content, format, and duration, as well as methods to conduct study assessments that considered literacy concerns and avoided interventionist bias. Analyses were conducted using thematic analysis via the constant comparative method. Across groups, findings highlighted the negative impact of limited finances, transportation and safety concerns on eating and exercise behaviors. Suggestions for topics included: scheduling and planning meals, introducing solids and new foods as children age, and postpartum weight loss and body image. All groups agreed that a contact schedule of once per week for one hour or less was desirable. The need for group leader flexibility to accommodate families' changing schedules was highlighted. Use of non-monetary (relevant) incentives was encouraged by outreach workers to enhance participation, including healthy foods, exercise equipment, and other tangible tools. Use of computer assisted assessment software was deemed most feasible to conduct study assessments. Outreach worker perspectives can inform delivery of an obesity intervention to this high risk and often hard to reach population. Implications for the development of an in-home obesity intervention targeting low income families with 0-2 year olds will be discussed.

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A058

6:00 PM-7:00 PM

THE #SALUDTUES APPROACH: USING TWEETCHATS & SOCIAL MEDIA ADVOCACY IN THE EXCHANGE OF HEALTH INFORMATION TO PROMOTE LATINO HEALTH

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BACKGROUND: Latinos, one of the youngest, fastest-growing U.S. population groups, suffer a number of health disparities, including high rates of childhood obesity and conditions, such as diabetes and cancer. Continual efforts to raise awareness of disparities and policy solutions can be used to change health outcomes. In response, *Salud America!* (SA!), a Latino childhood obesity research network, developed a Latino-advocate-focused educational website with behavioral journalism-based case studies, resources, and geo-located policy content. To drive traffic to the website, SA! and its social media handle (@SaludToday) launched a weekly, Tweetchat series called #SaludTues (Salud Tuesday). We hypothesized that #SaludTues would increase audience engagement and the number of page views of the website. **METHODS:** Tweetchats, are each based on a Latino health topic that ties back to educational content on health disparities and health equity. Each chat is hosted by SA!/SaludToday and involves co-hosting by two topical experts using a question-and-answer format. The host tweets eight prescribed questions, co-hosts tweet prescribed answers, and Tweetchat participants offer their own questions, answers, and resources. Total tweets, reach and potential impact, and webpage views were collected October 2014-May 2015 using Google analytics and a third-party service. **RESULTS:** Based on metrics, #SaludTues tweetchats stimulated: audience interactivity in the form of responses, favorites, and Retweets; a 21.4% increase in Twitter followers; and an average weekly reach of more than 800,000 and impact of nearly 9 million Twitter users. The chats also contributed to the increase of nearly 1,000 more page views of the *Salud America!* website each month. **CONCLUSION:** Social media can be a powerful tool in content dissemination and raising awareness of Latino health disparities. Researchers and practitioners should leverage social media to promote campaigns and policy solutions for improving health. Additional studies aimed at understanding the true impact of social media on health are needed.

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A059

6:00 PM-7:00 PM

THE APPLE OF THEIR EYE: ATTITUDE AND BEHAVIOR CORRELATES OF PARENTS' PERCEPTIONS OF CHILD OBESITY

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Many parents underestimate their child's weight-status. Past research suggests underestimation might be related to specific parent and child demographic characteristics (e.g., male child gender), although findings vary. The purpose of our study was to extend the literature on parental perception of child weight using a community sample to address knowledge gaps about the correlates of parental perception of child weight. We sought to evaluate how weight-status and its perception related to parents' personal and parenting attitudes/behaviors. Participants were parents (N=1007; 65.3% mothers, 34.4% fathers) of children 5-15 years old. Parents completed online surveys that included measures of personal eating attitudes/behaviors, attitudes/behaviors about their children's eating and weight, and parental practices related to feeding and teaching weight-related attitudes. Parents frequently underestimated child overweight (26.9% accurate) and obesity (10.2% accurate). They underestimated child weight more frequently than their own overweight (64.1% accurate, p.10). Parents' child-focused eating attitudes/behaviors were related to actual (p.18). In general, parents' personal attitudes/behaviors did not extend into their perceptions of their child's weight or their response to it. Results suggest a dual need to improve parent accuracy perceiving child overweight/obesity, and to guide parent responses to perceived overweight/obesity. Given the high prevalence of child overweight and obesity, and the serious consequences of child overweight/obesity during childhood and into adulthood, further research is needed to enhance understanding of parents' specific needs to engage in universal prevention programs, targeted prevention programs, and treatment programs.

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CITATION AND MERITORIOUS AWARD WINNER

A060

6:00 PM-7:00 PM

THE BIOMECHANISMS THAT INFLUENCE EFFECTS OF DEPRESSIVE SYMPTOMS ON COGNITIVE FUNCTIONING IN AFRICAN AMERICANS

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African Americans experience earlier onset and accelerated decline in cognitive functioning. Several studies have reported higher rates of depressive symptoms. The population is disproportionately affected by obesity, which is a risk factor for cognitive decline and correlative of depressive symptoms. Few studies have examined these associations in obese African-American populations. Furthermore, little is understood about the impact of state/dispositional depression on cognitive functioning. The current study examined the impact of state/dispositional depressive symptoms on cognitive functioning in a community sample of obese African Americans. Additionally, the study investigated whether these associations are mediated by inflammatory biomarkers and varied as a function of gender. The community sample included 74 obese African Americans, as determined by waist circumference. Participants completed the Trail Making Test, Stroop Test, Wisconsin Card Sorting Test, The NEO-Personality Inventory Revised, and the Beck Depression Inventory II. Concomitantly, serum levels were also obtained from each participant for wide-panel screening of cytokine (i.e. IL-6 and IL-1) and inflammatory-associated biomarkers. Results of the hierarchical regression analyses showed significant associations between depressive symptoms and Stroop performance after controlling for age, gender and education. There were significant interactions between gender and depressive symptoms. Synergistic effects were generally present for females when considering state depressive symptoms and males when considering dispositional depression. Analyses also showed a significant mediation effect of IL-6 levels on somatic depressive symptoms and cognitive flexibility for women. For men, the mediation effect of IL-1a levels on the relationship between dispositional depressive symptoms and processing speed was observed. Results suggest that depressive symptoms impact cognitive functioning and are partially explained by inflammatory biomarkers.

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A061

6:00 PM-7:00 PM

THE DEVELOPMENT OF A SELF-EFFICACY FOR DIET BEHAVIORS QUESTIONNAIRE

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As a construct, weight-related self-efficacy has been identified as a potentially modifiable factor that may influence individual performance in lifestyle management of obesity. However, research is limited by the narrow availability of self-report measures that assess long-term as well as short-term self-efficacy for dietary change. The current investigation attempted to address these limitations through the development of a psychometrically-sound instrument to assess self-efficacy for dietary behaviors required for initial weight loss and long-term maintenance of lost weight in lifestyle interventions for obesity. The Self-Efficacy for Diet Behaviors (SEED) scale is a self-report questionnaire consisting of 36 dietary items rated from 0 = *not confident* to 100 = *most confident*. The psychometric properties of the SEED were evaluated with two studies. In the first study, exploratory factor analysis ($N = 150$; age, $M = 38.6$ years, $SD = 15.9$ years; BMI, $M = 26.2$ kg/m², $SD = 5.8$ kg/m²) with oblique promax rotation revealed a seven-factor model. Factors represented Tempting Foods, Mood States, Healthy Behaviors, Unhealthy Foods, Snacks, Diet Consistency, and Self-monitoring Skills. An item-scale analysis demonstrated high internal consistency of these factors, $\alpha = .93$. In the second study, test-retest reliability and construct validity were evaluated with a new sample of adults ($N = 153$; age, $M = 47.1$ years, $SD = 16$ years; BMI, $M = 31.6$ kg/m², $SD = 6.3$ kg/m²). Test-retest reliability for a 2-week interval ($n = 60$) was $r = .77$, $p < .001$. Construct validity was established by comparing scores on the SEED to the Binge Eating Scale and the Rapid Eating and Activity for Participants – short version. Higher self-efficacy scores on the SEED were associated with less binge eating behavior ($r = -.34$, $p < .001$) and healthier nutritional intake ($r = -.33$, $p < .001$). These initial analyses suggest that the SEED possesses sound internal consistency and construct validity. Ongoing follow-up studies are evaluating additional psychometric properties of the SEED.

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A062

6:00 PM-7:00 PM

THE EFFECT OF ACUTE EXERCISE ON ADIPOSE TISSUE POSTPRANDIAL LIPOLYSIS IN LEAN AND OBESE CHILDREN

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Obese, sedentary adults have poorer post-prandial suppression of lipolysis than lean active adults. Acute exercise increases insulin sensitivity and insulin suppresses lipolysis, therefore it may be used to normalize lipolytic responses to food intake. However, there is limited information on children. The purpose of this study was to determine if acute aerobic exercise would affect lipolytic responses to food intake in lean (LN) and obese (OB) children. Methods: 44 children (Experimental Group = 16 LN and 28 OB, ages 8–11) performed 20 min of aerobic exercise plus 6 min of warm-up and cool-down between standardized breakfast and lunch (~500 kcal) meals, while 21 children (Control Group = 9 LN and 12 OB, ages 8–11) remained rested between meals. Microdialysis probes were inserted into the subcutaneous abdominal adipose tissue to monitor interstitial glycerol (lipolysis). Changes in interstitial glycerol concentrations were calculated from one-hour dialysate samples collected before and after ingestion of each meal. Two-way (meal by adiposity group) ANOVAs were separately performed for experimental (EX) and control (CON) children. Results: In CON, the lipolytic response to the meal was attenuated after lunch compared to after breakfast regardless of obesity status. Lean children in the EX group also had attenuated lipolytic response to lunch compared to breakfast. There was a poor suppression of lipolysis in abdominal adipose tissue in obese children in response to breakfast that was normalized at lunch, possibly due to the intervening aerobic exercise. Conclusion: The suppressive effect of food intake on lipolysis in subcutaneous abdominal adipose tissue in children may be attenuated after lunch compared to breakfast. The anti-lipolytic response to food intake can be enhanced with acute exercise in obese children. Our novel data extended our understanding of lipolytic profiles in lean and obese children, thereby providing additional evidence on the role of exercise in treating childhood obesity.

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A063

6:00 PM-7:00 PM

THE EXPERIENCE OF WEIGHT STIGMA AMONG GYM MEMBERS WITH OVERWEIGHT AND OBESITY

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Persons with obesity frequently face weight-related teasing, victimization, and discrimination in multiple domains. To date, however, no research has examined the experiences of individuals with overweight and obesity within fitness settings. Given the role of exercise in mitigating the health risks of obesity, it is vital to assess the presence and nature of weight stigma within exercise facilities. The objective of the present study was to assess stigma within fitness facilities, elucidate barriers to exercise, and explore associations between stigma and physical activity.

295 U.S. adult gym members with overweight and obesity (77% female, 53% non-Hispanic White, 72% obese; mean age: 32.82 ± 11.63) completed online self-report measures of gym use and experiences of weight stigma. Nearly half (47%) of respondents reported at least one stigmatizing experience at the gym. Nearly one-third of participants (30%) reported receiving “dirty looks or stares” from others at the gym, 19% reported negative weight-based comments from fellow gym members, 15% reported that the machines at their gym (e.g., stationary bicycles) are too small, and 14% reported negative weight-based comments from gym staff members. Nearly half (44%) of respondents agreed that fear of weight stigma reduces their motivation to attend the gym. The majority of participants (58%) agreed that efforts to reduce stigma (e.g., equipment sized for larger bodies, staff members who are overweight, shame-free environment) would increase their likelihood of joining a gym. Linear regressions, controlling for age, race, sex, and BMI, revealed that stigma at the gym is *negatively* associated with frequency of gym use ($\beta = -.21$, $p = .001$).

Results indicate that individuals with obesity frequently experience stigma at the gym, and that such experiences are associated with poorer gym attendance. Importantly, avoiding exercise may exacerbate health comorbidities and stymie weight loss efforts. Results may help to inform gym policies to promote exercise among individuals of all weight strata.

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A064

6:00 PM-7:00 PM

THE FAMILY LIFE, ACTIVITY, SUN, HEALTH AND EATING (FLASHE) STUDY: OPPORTUNITIES FOR NOVEL RESEARCH.

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Introduction: To provide an overview of the FLASHE study, a forthcoming public-use resource that evaluates multilevel influences on obesity preventive health behaviors (diet, physical activity, sedentary behavior, sleep, etc) among parent-teen dyads. Methods: FLASHE is a U.S. based sample drawn from a Consumer Opinion Panel. Cross-sectional data were collected between April – October 2014 using a web-based platform. FLASHE focuses on multilevel correlates of obesity among parent-teen dyads (12–17 years old) with an oversampling of Non-Hispanic Blacks. Objective physical activity measured in subsample of teens. Constructs include psychosocial factors (e.g. self-efficacy, motivation, emotional regulation), interpersonal factors (e.g. parenting style and parenting practices), and characteristics of the home and neighborhood environments among others (e.g. food insecurity, housing, employment). Results: The FLASHE study enrolled 1944 dyads, of which 1251 were randomized to receive only the FLASHE surveys and 693 to receive the FLASHE surveys plus a physical activity monitor to be worn by teens for days. Of the 1251, 86% of dyads completed all surveys. Of the 693, over 90% returned the physical activity monitor and 80% completed all surveys and returned their monitor. Conclusion: FLASHE is a unique, public-use resource to evaluate research questions focused on parents, teens, and parent-teen dyads across levels of influence on obesity preventive health behaviors. Additional links to geospatial data and other policy databases offer multiple research opportunities.

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A065

6:00 PM-7:00 PM

THE IMPACT OF WEIGHT OVERVALUATION ON WEIGHT DISSATISFACTION AMONG EMERGING ADULTS

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Background: Understanding factors that contribute to positive weight-related behaviors is crucial for weight-loss intervention development. Few studies have examined shape/weight valuation (influence of body shape/weight on self-evaluation) as it relates to desire to lose weight among emerging adults, despite the potential to influence weight-related behaviors. **Methods:** 307 18-25-year-old ($M=19.47$, $SD=1.66$) college students were enrolled through a university subject pool; 71% were female (45% Black, 41% White, 3% Hispanic, 12% Multiracial/Other). Two items from the Eating Disorder Examination assessed weight/shape valuation: "Over the past 4 weeks, has your shape [weight] influenced how you feel about yourself as a person?" Responses included *not at all important to extremely important* and were averaged as a shape/weight overvaluation total score (Grilo et al., 2008). BMI (kg/m^2) was calculated using measured height and weight ($M=25.10$, $SD=6.02$). Weight dissatisfaction was based on the difference between self-reported weight and goal weight (categorized as desire to lose, stay the same, or gain weight). A chi-square test examined associations between gender and weight dissatisfaction. Logistic regressions explored how shape/weight overvaluation impacted weight dissatisfaction. **Results:** Significantly more females (76%) than males (41%) reported a desire to lose weight and more males (55%) than females (18%) reported a desire to gain weight ($\chi^2(2)=40.95$, $p<.001$). In gender-stratified logistic regression models adjusting for BMI, females with higher weight/shape overvaluation were more likely to report a desire to lose weight than stay the same/gain weight ($\beta=-.25$; 95% $CI=-.62, .98$; $p=.03$). Findings for males were non-significant. **Conclusions:** Females who reported a greater influence of shape/weight on self-evaluation were more likely to desire to be a lower weight, regardless of their BMI. Given studies supporting shape/weight overvaluation as a risk factor for maladaptive eating behaviors (e.g., binge eating), this should be a priority area in targeted interventions.

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A066

6:00 PM-7:00 PM

THE INFLUENCE OF BODY APPRECIATION AND POSITIVE EATING BEHAVIORS ON CARDIOMETABOLIC OUTCOMES: THE ROLE OF STRESS

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The first-year college transition has been advanced as a key developmental period for targeted health promotion and disease prevention efforts. Indeed, the holistic Health at Every Size paradigm emphasizing body appreciation and intuitive eating is receiving increased scholarly attention within this literature. Yet research remains to be guided by a cohesive model predicting cardiometabolic health outcomes that also incorporates the potential intermediary roles of stress experienced at this juncture. Accordingly the primary aim of the current study was to address this gap. A sample of 141 ethnically-diverse first-time, first-year college women were assessed for eating behaviors, psychosocial factors and cardiometabolic profile (BMI, waist circumference and visceral fat percentage) at the beginning and end of their first year of college. Structural equation modeling was used to test a model integrating both known relationships among body appreciation, intuitive eating and cardiometabolic outcomes, while assessing the unique impact of stress on both positive and negative eating behaviors. Results indicate a strong model fit along with strong regression coefficients significant ($p < .05$) level for all specified pathways. As expected, body appreciation at matriculation had a positive effect on intuitive eating. In turn intuitive eating at matriculation predicted a healthier cardiometabolic profile later in the academic year, but stress (both college-related stress and sexism-related stress) disrupted intuitive eating behaviors. These results suggest the stressful milieu of college may adversely impact college women's ability to engage in positive eating behaviors and therefore their later cardiometabolic outcomes, with implications for their health trajectories if stress is not addressed. How findings may help inform the development of holistic health promotion efforts for first-year college women are discussed.

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A067

6:00 PM-7:00 PM

THE INFLUENCE OF WEIGHT STATUS ON FLOW VELOCITY PARAMETERS AND COGNITIVE VARIABILITY IN YOUNG ADULT AFRICAN-AMERICAN WOMEN

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Obesity is a cardiovascular disease risk factor associated with physiological and cognitive impairment in the brain. The burden of obesity disproportionately impacts African Americans, whose prevalence is significantly higher compared to other ethnic groups. In addition, more than half of African-American women are overweight or obese, which increases the risk for obesity-associated burden and disease. This study evaluated the influence of obesity measures on physiological and cognitive variability in young adult African-American women. More specifically, this study examined whether the relationship between cerebral blood flow velocity and pulsatility index parameters, and, performance on executive functioning measures understood that's in the brain varies as a function of anthropometric measures of overweight and obesity, namely body mass index and waist-to-hip ratio. A sample of 32 African-American college-aged women within the Washington, DC area completed the Wisconsin Card Sorting Test-64 (WCST-64) while data on blood flow parameters within the right middle cerebral artery were continuously collected. Physiological data were further divided into one minute epochs and event-end points while PROCESS for SPSS version 2.13 plug-in was used to test the direct and moderation effects. The major results of this study are as follows: (1) lower mean cerebral blood velocity was associated with poorer performance on the WCST-64 task (2) higher pulsatility index during the first epoch of the Wisconsin Card Sorting- 64 task was associated with poorer performance (3) In some cases these relationships varied as a function of levels of obesity anthropometric measures. The relationship among these variables, and, central cognitive mechanisms associated with the dorsolateral prefrontal cortex and right hemispheric set shifting are discussed. In addition, further discussions on the significance of observable cerebral patterns before a chronic condition diagnosis were explained.

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A068

6:00 PM-7:00 PM

THE UTILITY OF THE WEIGHT AND LIFESTYLES INVENTORY IN PREDICTING TWO-YEAR CHANGE IN BMI AFTER BARIATRIC SURGERY

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Background: Research supports a positive association between emotional eating and obesity. However, explorations of the relationship between emotional eating and outcomes after bariatric surgery are less conclusive, with some studies suggesting emotional eating is a potent predictor of weight loss after surgery, while others indicate that emotional eating has little impact on post-surgery weight loss. Practitioners frequently use self-report questionnaires—including the Weight and Lifestyles Inventory (WALI)—to assess for pre-surgical emotional eating. Specifically, Section H of the WALI (WALI-H) asks respondents to indicate the degree to which they engage in emotional eating behaviors. The WALI-H has demonstrated a positive correlation with depression and binge eating. Additionally, a recent factor analysis of the WALI-H indicated a three-factor solution that included eating in response to negative affect, overeating/desirability of food, and eating in response to positive affect/social cues. However, to our knowledge, no studies have examined the utility of the WALI-H in predicting post-surgical weight loss. Additionally, research examining the link between emotional eating and post-bariatric weight loss have focused overwhelmingly on female patients. While approximately 80% of bariatric surgery patients are female, male patients have been largely excluded from bariatric research. The current study sought to remedy the above-mentioned gaps in the literature by exploring the predictive utility of the WALI-H, as well as the three factors described above, in post-surgery weight loss, and by examining potential gender differences that may exist when using the scale to explore this relationship. **Participants:** Bariatric patients ($n = 368$) completed the WALI-H as part of the larger standard intake procedures at a Pennsylvania weight loss surgery center. All participants in the study received a Roux-en-Y surgical procedure between 2008 and 2010. Time 1 weight was taken during the pre-surgical assessment. Time 2 weight was assessed at an in-office visit two years post-surgery. Changes in Body Mass Index (BMI) were computed by subtracting BMI at Time 2 from BMI at Time 1. The sample was primarily female (78.5%) and Caucasian (87.5%). The average patient age was 44.93 while the average BMI was 48.30. The average BMI at follow-up was 37.47, with an average change in BMI at two years of 10.83. **Results:** To test the predictive utility of the WALI-H in determining change in BMI at 2-year follow-up, a linear regression analysis was constructed. Change in BMI served as the dependent variable, while scores on the WALI-H served as the independent variable. Scores on the WALI-H failed to predict change in BMI ($b = .038, t = .713, p = n.s.$). A second linear regression was constructed to determine whether the three factors described above predicted change in BMI. The three factors, eating in response to negative affect ($b = .000, t = -.008, p = n.s.$), overeating/desirability of food ($b = .022, t = .408, p = n.s.$), and eating in response to positive affect/social cues ($b = .062, t = 1.157, p = n.s.$) also failed to predict change in BMI. Finally, we sought to determine whether a similar pattern was present for both male and female bariatric patients. When analyzing females separately, the WALI-H did not predict change in BMI. However, when analyzing male bariatric patients, the WALI-H was a significant predictor of change in BMI ($b = .230, t = 2.05, p < .05$), in that higher scores on the WALI-H predicted greater change in BMI post-surgery. **Implications:** Results suggested that in an overall sample of patients undergoing Roux-en-Y gastric bypass procedures, the WALI-H did not predict change in BMI two years post-surgery. There may be several potential reasons for this finding. First, given that most patients are quite motivated to receive weight loss surgery—with some viewing it as their “last chance” at weight loss—it is possible that patients fail to disclose emotional eating tendencies during pre-surgical evaluation. In fact, a substantial amount of research has demonstrated a social desirability response bias in those presenting for surgery. Additionally, given the face validity of the items listed on the WALI-H, patients are aware that their tendencies toward emotional eating are being evaluated. Further, it is possible that a ceiling effect occurred in the current sample, given that patients presenting for bariatric surgery frequently display high levels of emotional eating. Finally, it may be the case that the WALI-H simply is not sensitive enough to measure meaningful individual differences that may aid in predicting potential weight loss after surgery. Interestingly, for males in the current sample the WALI-H did predict two-year change in BMI, although not in the expected direction. In fact, the results indicated that the more emotional eating that male patients reported prior to surgery, the greater weight loss they experienced after surgery. Although initially puzzling, it may be that having knowledge of one's emotional eating tendencies, combined with motivation for change, allows for patients to make necessary modifications to their diet after surgery. In conclusion, while emotional eating remains an important component of pre-surgical assessment for weight loss surgery, clinicians are cautioned to interpret self-report questionnaires—such as the WALI-H—in combination with other pertinent clinical information, as well as to consider the use of less face valid measures of emotional eating when evaluating candidates for surgery.

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A069

6:00 PM-7:00 PM

TRANSLATING INTENSIVE WEIGHT MANAGEMENT INTERVENTION TO STATE-WIDE PRIMARY CARE CLINICS

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The growing obesity epidemic mandates the development and translation of successful weight loss methods in real-world medical settings. The Heads Up Study, a weight management program and observational study for members of Louisiana's Office of Group Benefits, developed an intensive medical intervention (IMI) and now is translating that in a program, IMI-Translation (IMIT), to primary care practices throughout Louisiana. IMIT treats severely obese adults using a low calorie liquid diet (LCD) for 16 weeks coupled with lifestyle change group sessions. 21 web-based group meetings are delivered via the program website, MyWellnessPal. 6 primary care sites implement the IMIT medical management at 6 widely dispersed locations across Louisiana.

IMI Program. In the IMI program developed at Pennington, 596 participants (82% female, 56% Caucasian, age=50.6 ± 10.1, BMI=43.0 kg/m² ± 6.4) are enrolled. Average weight loss in completers at 6 months ($n=402$) is 37.5 lbs (14.2%) weight loss and 28.9 lbs (11%) at 1 year ($n=321$).

IMIT Program. Following state-wide marketing of the program to OGB members, initial eligibility assessment and screening was completed. To date, 358 have completed the first screening visit, and 293 have been enrolled (82% female, 65% Caucasian, age=52.3 ± 9.2, BMI=42.4 kg/m² ± 6.0). At satellite clinics, average weight loss at 6 months ($n=95$) is 32.3 lbs and at 1 year ($n=8$) is 28.6 lbs.

Program adherence for group sessions for IMI ($n=176$) showed 58% average session attendance. For IMIT ($N=258$) average attendance was 65%. For participants who met minimum attendance of 60%, average attendance for IMI ($n=95$) was 85% and IMIT ($n=164$) was 87%.

Additional analyses are planned to assess participant satisfaction, adherence efficacy and safety for both IMI and IMIT.

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A070

6:00 PM-7:00 PM

USING MACHINE LEARNING TO PREDICT DIETARY LAPSES FROM A WEIGHT LOSS PROGRAM

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Dietary lapses, defined as a momentary deviation from a prescribed diet, are a major barrier to weight loss. Lapses are discrete events that have internal (e.g., mood) and external (e.g., food availability) triggers. A literature review we conducted identified approximately 22 potential lapse triggers. The large amount of possible combinations of these predictors makes supervised machine learning the best choice to build a mathematical model capable of accurately predicting lapses before they happen. Moreover, machine learning model accuracy continuously improves as trigger and lapse data is collected. The aim of the current study was to develop an initial machine learning model capable of predicting lapse behavior in a sample of overweight and obese participants following a standardized weight control diet for 6 weeks. Users (current $n=12$, $M_{BMI} = 33.6$) were prompted to report on lapses and relevant triggers 6 quasi-random times per day, and to self-report lapses as they occurred. Participants reported 326 lapse and 2,572 non-lapse instances. It is challenging to achieve high accuracy while maintaining high sensitivity due to the large amount of missing data and the fact that lapses form a rare class. Using R, we compared logistic regression, decision trees and support vector machines. Decision tree (C4.5) ensemble classifier under cost-sensitive learning framework was identified as the top performer based on its accuracy (60.3%), sensitivity (60.3%) specificity (55.5%) and Receiver Operating Characteristic (ROC) curves. Variable selection was performed by Lasso algorithm which revealed a 12-variable model to be the most predictive of dietary lapses. The strongest predictors of lapses, as indicated by model coefficients were socializing with food present (0.59), feeling tired (0.13), negative mood (0.14), and feeling hungry (0.02). Project results thus far indicate that machine learning shows promise for predicting dietary lapses. Future research should continue to explore the utility of machine learning methods in behavioral health and integrate into existing behavioral intervention technology (e.g., Just-in-Time Adaptive Interventions).

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A071

6:00 PM-7:00 PM

USING SMARTPHONE SELF-MONITORING APP IMPROVES WEIGHT LOSS IN A 12-MONTH BEHAVIORAL WEIGHT LOSS TRIAL

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Background: Using smartphone apps for weight management is increasing and has the potential to facilitate behavioral change, yet little is known about long-term patterns of app use and their association with weight loss. The purpose of our study was to identify patterns of use of a self-monitoring (SM) app for dietary intake and their association with weight loss over 12 months. **Methods:** This secondary analysis used SM and weight data from the EMPOWER trial. Participants were asked to enter their daily food intake in the smartphone app. We defined daily app use as any food entry in the app each day and calculated % of days per week the participant used the app over 51 weeks. Weight was measured at baseline (0), 6 and 12 months. Percent weight change was calculated as $[(\text{weight}_t - \text{weight}_0) / \text{weight}_0] \times 100\%$, for $t = 6, 12$. Distinct trajectories of app use were estimated using group-based trajectory modeling and associated with percent weight change using linear mixed modeling (LMM). **Results:** The sample ($N=148$) was mostly female (90.5%) and white (79.7%) with a mean (SD) age of 51.3 (10.1) years and BMI of 34.1 (4.6). Five trajectory groups for app use were identified: 1) high consistent ($n=38$, 25.8%, consistent use for > 6 days/wk); 2) minimal decline ($n=39$, 26.2%, use linearly declined from 6-7 days/wk to 4 days/wk at wk 51); 3) moderate decline ($n=36$, 24.1%, use linearly declined from 6-7 days/wk to 1-2 days/wk by wk 51); 4) rapid decline ($n=23$, 15.7%, use linearly declined from 5-6 days/wk to no use at wk 51); and 5) minimal ($n=12$, 8.2%, use nonlinearly declined from 5-6 days/wk to no use after wk 19). Via LLM, group effects were found ($p < .001$): high consistent users had the greatest weight loss (6mo: -13.3%; 12mo: -15.2%), followed by minimal decline users (6mo: -9.8%; 12mo: -9.5%), moderate decline users (6mo: -7.1%; 12mo: -5.7%), rapid decline users (6mo: -5.2%; 12mo: -3.4%), and minimal users (6mo: -4.1%; 12mo: -2.8%). **Conclusions:** This is the first study to identify distinct trajectories for weekly use of a smartphone-based dietary intake app and its association with weight. Results showed that consistent app use was associated with better weight loss and maintenance over 12 months. Given that over 75% of participants self-monitored at a level that was associated with a clinically significant 5% weight loss, researchers and clinicians need to further consider the use of mobile technology to support SM, a key strategy for behavior change.

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A072

6:00 PM-7:00 PM

WEIGHT LOSS DURING CO-OCCURRING IN-PERSON AND VIDEO CONFERENCE WEIGHT MANAGEMENT PROGRAM

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Background: Rates of obesity across the globe have increased in recent years and the Veteran's Health Administration (VHA Medical Centers) has developed an evidence based weight management program (MOVE!) to address this concern. The purpose of the present study was to evaluate the average weight loss between participants attending a co-occurring in-person (VHA Medical Center) and video conferenced (VHA Outpatient Clinic) MOVE! class. **Sample:** 78 individuals (12 females, 66 males) including 39 who participated in MOVE! at the VHA Medical Center (6 females, 33 males) and 39 individuals who participated in MOVE! via co-occurring video conferencing at the VHA Outpatient Clinic (6 females, 33 males). All participants had comorbid physical health conditions, were identified as obese, and 55 participants had comorbid mental health conditions. **Methods:** A retrospective chart review was conducted to obtain both pre- and post-intervention weights. Participants from each location were matched by age and gender. Descriptive statistics and paired t-tests were computed to examine the statistically significant differences in average weight loss between the samples. **Results:** On average participants lost 6.27 lbs. across both samples. Individuals who completed the in-person MOVE! at the VHA Medical Center had greater average weight loss ($M = 7.68$ lbs., $SD = 1.80$) compared to individuals participating via co-occurring video conferencing at the VHA Outpatient Clinic ($M = 4.85$, $SD = 1.73$). Results of paired t-tests indicated no statistically significant difference in average weight loss between those participating in MOVE! at the VHA Medical Center compared to the VHA Outpatient Clinic participants ($t(38) = 2.02$, $p = 0.28$). **Conclusions:** Participants who successfully completed MOVE! had amounts of average weight loss similar to previous MOVE! research. There were no statistically significant differences in average weight loss between the two samples. Thus, conducting a co-occurring weight management program in-person and via video conferencing appears to be a viable avenue for weight management.

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A073

6:00 PM-7:00 PM

WEIGHT MANAGEMENT FOR INDIVIDUALS WITH INTELLECTUAL AND DEVELOPMENTAL DISABILITIES

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Background: The prevalence of obesity among individuals with intellectual and developmental disabilities (IDD) is approximately twice that in the general population, with up to 55% of adults with IDD considered obese ($\text{BMI} > 30 \text{ kg/m}^2$). The purpose of this study is to compare both weight loss and weight maintenance between an enhanced Stop Light Diet (eSLD) and a recommended care diet (RC) in adults with IDD. **Methods:** Overweight/obese adults with mild to moderate IDD and their study partners were randomized to an 18-month effectiveness trial with 6 months weight loss and 12 months weight maintenance. All participants were randomized and asked to follow either an eSLD, which utilizes portion controlled meals, or the RC, which follows the USDA MyPlate guide. Both groups tracked their dietary intake daily and were asked to wear a step counter and record steps walked, with an eventual goal of 150 minutes of physical activity per week. All participants were assigned a health educator, who held monthly at-home visits with them and their study partner to provide feedback and education related to intervention compliance. **Results:** One hundred and forty-nine individuals (mean age = 36 ± 12 yrs., female = 57%) were randomized to either the RC or eSLD groups. Seventy-nine percent of participants in the RC and 87% of participants in the eSLD group provided weights at the end of the 6-month weight loss phase and 65% and 70% provided weights at 18 months. During weight loss, participants in the eSLD group lost a significantly greater weight than participants in the RC group ($-7.02\% \pm 5.0$ vs. $-3.8\% \pm 5.1$, $p < 0.001$), however at 18 months there was no difference between groups ($-6.7\% \pm 8.3$ vs. $-6.4\% \pm 8.6$; $p = 0.82$). **Discussion:** This study found that adults with IDD can follow a diet intervention and achieve clinically significant weight loss following two different diet methods.

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A074

6:00 PM-7:00 PM

WEIGHT VARIABILITY EARLY IN TREATMENT PREDICTS LESS LONG-TERM WEIGHT LOSS IN A BEHAVIORAL WEIGHT CONTROL PROGRAM

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Humans historically show automatic weight stability despite a very high flux in energy, but this regulation weakens with weight gain. Weight variability (WV) is the amount that one's weights vary from a linear weight change trajectory. Higher WV has predicted future weight gain among young women struggling with their weight. It also has been associated with increased neural reward-related activity in response to milkshake receipt in adolescents. Most research examining weight trajectories in obese samples has relied on self-reported weight cycling, or intentional weight losses followed by unintentional gains. The present study examined whether higher WV at several phases throughout behavioral weight loss treatment was associated with poorer long-term weight control. Participants were overweight and obese (M BMI = 35.0, SD = 4.6) men (19.5%) and women (M age = 49.8, SD = 10.7) enrolled in a yearlong behavioral weight control trial comparing several versions of treatment. WV was calculated from three weights taken prior to treatment (pre-treatment; N = 262), from weights during the first eight weeks of treatment (early-treatment; N = 183), and from weights during the last four weeks of weekly treatment (late-treatment; N = 135) as the root mean square error around a multilevel linear regression curve of each individual's weight over time. Several one-tailed hierarchical linear regression analyses tested the relationship between each WV score and 6-month, 12-month, and 24-month weight, controlling for baseline weight. Early-treatment WV, but not pre- or late-treatment WV, was associated with long-term weight change. While early-treatment WV did not predict weight after 6 months (p = 0.33), higher WV was associated with a higher weight at 12- and 24-months (p 's = 0.03). The early weeks of treatment are when motivation tends to be highest and weight loss is the most consistent. A higher WV during this time may reflect a weakness in ability to adhere consistently to treatment. However, the full manifestation of this weakness may take time to appear. WV may be used as an early identifier of those most likely to regain weight that may benefit from additional or longer-term weight control support.

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A075

6:00 PM-7:00 PM

WHAT DO PATIENTS' THINK? PATIENT PERSPECTIVES ON WEIGHT-RELATED CONVERSATIONS WITH THEIR PROVIDER

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BACKGROUND: Helping to reduce our country's obesity epidemic is a major goal for primary care/internal medicine providers. However, discussions about weight management often do not happen or are challenging to navigate. The goals of the current study were to elicit qualitative responses from patients about these conversations and gather recommendations for future encounters. **METHODS:** 1000 patients who were recently seen by an internal medicine provider for non-weight specific medical appointments were mailed a survey that assessed their perceptions of the visit including: most common provider recommendations given, patient actions taken in response, how it felt to have a provider discuss weight during the visit, examples of how providers should discuss weight with patients, and what term patients prefer for their weight. **RESULTS:** 224 patients responded (24% response rate). Most common provider recommendations were dietary (58%) and physical activity changes (40%). Unfortunately only 29% of patients reported receiving recommendations for both dietary and physical activity changes. In response to their providers' recommendations, 54% of reported making dietary changes and 40% made exercise changes. A majority of patients (57%) reported feeling neutrally about weight-related conversations with their provider. Of those who felt the interaction was negative (17%), a small subset endorsed feeling stigmatized. Most patients (54%) felt that advice or education were the most helpful techniques used by providers. The most common term preferred for discussing weight was "overweight." **CONCLUSION:** This study suggests that patients have important opinions regarding weight management discussions which providers should be mindful of. Providers should ensure they are providing empirically supported weight management recommendations and that they are delivering recommendations in a non-stigmatizing way.

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A076

6:00 PM-7:00 PM

WHAT TYPES OF INCENTIVES ELICIT WEIGHT CONTROL IN ADULTS?: A SYSTEMATIC REVIEW OF BEHAVIORAL INTERVENTIONS

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Introduction: Incentives are often provided in weight control interventions, but they may inhibit autonomous motivation to change behavior. Incentives have been evaluated systematically according to dimensions of operant conditioning which offers a quid pro quo for behavior change. An alternative incentive structure, gamified incentives, may better support autonomous motivation and result in weight maintenance. The purpose of this review is to evaluate different incentive structures and synthesize evidence of their effectiveness in weight control interventions. **Methods:** Electronic databases and journal references were searched for relevant articles. Data sources included Medline OVID, Medline Pubmed, Web of Science, CINAHL, Cochrane Central, and PsycINFO. "Weight", "incentive", "intervention", "diet or activit", "behavior" and other related words were used as search terms. Out of the 2,123 retrieved, 13 studies (14 articles) met the inclusion criteria. These articles were reviewed for quality and content. **Results:** Incentives included money, prizes, gift vouchers, and participant-selected rewards. Most incentives rewarded a participant for engaging in a target behavior on a fixed schedule and were gamified by offering an average of 4 game-elements. All but one study reported at least one game element in the intervention (e.g. collection, score, social interaction). Nine out of 13 studies found a significant change in weight and five found a significant change in body mass index. Two out of 13 studies reported successful weight maintenance compared to the control group. The isolated effects of incentives could not be determined in 6 out of 13 studies. Only 2 out of the 5 studies that evaluated weight after stopping the incentive found significant weight maintenance. **Conclusion:** Most incentive structures appear to be effective in controlling weight in the short-term but more research is needed to investigate the long-term effects. More systematic reporting of all incentives in interventions is needed to completely evaluate the effects of incentives on weight control.

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A077

6:00 PM-7:00 PM

WHAT'S YOUR TYPE? A QUALITATIVE ANALYSIS OF WEIGHT LOSS SUCCESS BY WEIGHT LOSS ARCHETYPE

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Weight loss relies on a challenging process that often includes cycles of weight losses and regains. A wide range of evidence-based interventions have been developed, all of which claim varying degrees of success over time. However, given the continued high rates of overweight and obesity, there is a need to more deeply understand what individuals experience as they attempt to lose weight and maintain that loss so that interventions can be better matched to needs and preferences and increase the likelihood of success. Semi-structured patient interviews were conducted approximately 12 months after program enrollment into two concurrent pragmatic evaluations of three different interventions targeted to overweight/obese individuals at high risk for developing diabetes. Interviewees were selected for a balanced sample across the three intervention sites, by intervention arm, 12-month weight loss outcome, intervention participation level, and sex. A team of qualitative analysts used inductive coding to develop a codebook and create visual diagrams illustrating relationships among key theoretical constructs (e.g., motivation, locus of control) for behavior change. Participants exhibited characteristics of one of three dynamic archetypes, which differed in the degrees of connectivity among key constructs. In general, the more connections participants made between key constructs, the more likely they were to have experienced continued overall weight loss success. Motivation for weight loss alone was not necessarily associated with weight loss success. These findings convey the importance of understanding weight loss within the context of a complex interaction of constructs including motivation, attitudes, locus of control. Methods are needed to recognize the degree to which participants link and act on key constructs so that interventions can better support their success.

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A078

6:00 PM-7:00 PM

WHO USES BEHAVIORAL WEIGHT LOSS PROGRAMS? KEY GENDER DIFFERENCES IN PREDICTORS OF PARTICIPATION.

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Almost 80% of patients using the Veterans Health Administration (VA) are overweight or obese. MOVE!, VA's weight loss program, is effective, but only 10% of eligible patients use it. While women are most likely to participate in MOVE!, there is little information on gender differences in predictors of MOVE! use. To inform program development, we examined whether predictors of MOVE! use differed by gender.

Data came from VA's National Patient Care Database. The cohort consisted of all Veterans with at least one ICD-9 code for obesity/overweight in their medical record in fiscal year 2012 (FY12), who used VA outpatient care by day one, FY12. We used gender stratified logistic regression to predict likelihood of using MOVE! at least once in FY12 as a function of age, VA service connection, race/ethnicity, 9 obesity-related medical diagnoses, and 9 mental health diagnoses.

In this cohort of 708,801 men and 60,507 women, a minority used MOVE! (12% of men, 21% of women $p < .001$). For men, factors associated with lower odds of MOVE! use included: Hispanic ethnicity (OR 0.81 [0.79, 0.84]), hypertension (OR 0.94 [0.92-0.95]), dyslipidemia (OR 0.92 [0.94-0.97]), ischemic heart disease (OR 0.95 [0.94-0.97]), heart failure (OR 0.86 [0.83-0.88]), and psychotic disorders (OR 0.93 [0.87-0.99]). Many results were similar in women, but heart failure and psychotic disorders were not associated with women's MOVE! use. Drug use disorders were associated with higher odds of use in men (OR 1.29 [1.25, 1.33]), but lower odds in women (OR 0.88 [0.80-0.98]).

Those most likely to benefit from MOVE! are least likely to use it. Some predictors of MOVE! use differ by gender. Efforts to increase MOVE! use should focus on those with hypertension, dyslipidemia, and/or heart disease, with particular attention to Hispanic patients, men with psychotic disorders, and women with drug use disorders.

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A079

6:00 PM-7:00 PM

WILL WORK FOR BITES: USE OF WEEKLY BEHAVIORAL CHALLENGES TO ENHANCE DIETARY SELF-MONITORING VIA BITE TRACKING MOBILE DEVICE

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Background: Dietary self-monitoring is one of the key components of behavioral weight loss programs, but adherence tends to decline over time. **Methods:** Overweight adults ($n=12$) were recruited for a 4-week pilot trial to assess the use of the Bite Counter device for dietary self-monitoring. Participants attended weekly group meetings and were provided with 4 weekly challenges: use a bite limit goal for diet self-monitoring (week1), allowing for fruits/veggies (F&V) not to count towards daily bite limit (week2), use the device to self-monitor caloric intake vs. bites (week3), and receive an extra 10 bites/day bonus for every 30 minutes of physical activity (PA) a participant completed (week4). Changes in kcals, F&V, MVPA (IPAQ-short), and weight were assessed. Paired samples t-tests were used to examine changes from pre to post weekly challenge and ANOVA was used to examine differences in body weights at each week. **Results:** All participants provided a final weight assessment. Mean bites/day during week1 (96.0 ± 8.5 bites/day) did not differ from the other weeks of the study ($p > 0.05$). F&V intake was not significantly greater during the week2 challenge (3.9 ± 0.9 servings/day) as compared to baseline (3.2 ± 0.7 , $p > 0.05$). For week3 (kcal challenge), kcals/day were significantly lower (1302 ± 120) compared to baseline (2042 ± 302 , $p < 0.05$). Body weight at each time point (week1 80.4 ± 6.5 kg, week2 79.4 ± 6.2 kg, week3 79.1 ± 6.3 kg, week4 79.5 ± 6.5 kg) was significantly lower compared to baseline (80.9 ± 6.4 kg, p 's). **Conclusions:** Use of the Bite Counter was significantly associated with weight loss. While only the week3 challenge impacted the outcome for that week (change in kcals), weekly behavioral challenges may be a way to keep participants engaged and increase novelty during a behavioral weight loss intervention. Future studies should examine the impact of frequent behavioral challenges over a longer period of time.

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A080

6:00 PM-7:00 PM

STANDING WORKSTATIONS INCREASE OCCUPATIONAL PHYSICAL ACTIVITY IN PUBLIC HEALTH WORKERS

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Introduction: Sedentary behavior such as sitting is associated with increased risk for chronic diseases including cardiovascular disease and type 2 diabetes. Many employees, particularly office workers, spend a significant amount of time sitting while at work. Employers are offering alternatives to traditional desks including sit-stand workstations in an effort to reduce the time that employees spend sitting. This study examined the effects of sit-stand workstations on employee health. **Methods:** This study was conducted in collaboration with the Georgia Department of Public Health. Thirty-four employees replaced their traditional desks with sit-stand workstations. Participants completed a survey on their use of the workstation, pain, fatigue, and productivity at baseline, 4, 8 and 12 weeks (posttest). They also wore an accelerometer and provided blood pressure measurements at baseline and posttest. We used paired sample t-tests to examine change over time. **Results:** Participants were 77% female, 55% Black, 36% White, and 7% Asian. Overall, sedentary time decreased from 83% at baseline to 79% at posttest ($p=0.001$) and was replaced by time spent in light activity. Additionally, participants increased their step count from $3,103 \pm 1,500$ at baseline to $5,549 \pm 2,192$ at posttest ($p < 0.001$). Participants reported increases in standing from 0.92 ± 1.44 hours/day at baseline to 3.73 ± 1.64 hours per day at 12 weeks ($p=0.004$) and reduced levels of fatigue ($p < 0.001$). Systolic blood pressure decreased from 135 mm Hg at baseline to 129 mm Hg at posttest ($p=0.04$). **Conclusion/Discussion:** Sit-stand workstations were effective for reducing sedentary time and increasing light activity in office workers and resulted in reductions in systolic blood pressure and fatigue. Sit-stand workstations show promise as a strategy to increase occupational activity and reduce occupational risks for chronic disease in an office population. Additional research is needed to understand the cost-effectiveness of replacing traditional desks with sit-stand workstations and the long-term effects on chronic disease prevention.

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A081

6:00 PM-7:00 PM

PSYCHOSOCIAL MEDIATORS OF A THEORY-BASED RESISTANCE TRAINING MAINTENANCE INTERVENTION FOR PREDIABETIC ADULTS

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Background: Better understanding is needed of the psychosocial mechanisms that lead to successful maintenance of regular resistance training (RT) among high-risk populations. **Purpose:** To examine putative psychosocial mediators of the effects of high- versus low-dose RT maintenance interventions among older (ages 50-69), overweight, prediabetic adults. **Methods:** Participants ($N=123$) completed a three-month supervised RT initiation phase and were subsequently randomized (time 1) to either a high- or low-dose six-month unsupervised RT maintenance intervention (time 2), followed by a six-month no-contact phase (time 3). Putative mediators were assessed via on-line questionnaire at times 1 and 2. RT behavior was assessed via questionnaire at times 2 and 3. **Results:** The high-dose RT maintenance intervention led to more positive changes from time 1 to time 2 in behavioral expectation ($f^2=.04$), self-regulation ($f^2=.08$), and perceived satisfaction ($f^2=.04$), but not outcome expectancy, RT strategies, or behavioral intention. Time-1-to-time-2 changes in putative mediators were positively associated with RT behavior at times 2 and 3 for behavioral expectation ($f^2=.27$, .40), self-regulation ($f^2=.18$, .40), RT strategies ($f^2=.21$, .23), perceived satisfaction ($f^2=.12$, .40), and behavioral intention ($f^2=.26$, .40), but not outcome expectancy. In multiple mediation models, behavioral expectation ($f^2=.11$) and self-regulation ($f^2=.06$) were significant mediators for time 2 RT, with self-regulation a significant mediator for time 3 RT ($f^2=.11$). **Conclusions:** Findings suggest that behavioral-expectation and self-regulation are appropriate targets for RT maintenance interventions among at-risk older adults.

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A082

6:00 PM-7:00 PM

RECONCEPTUALIZING MEASURES OF PHYSICAL ACTIVITY PARENTING PRACTICES: BUILDING A CALIBRATED ITEM BANK

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There is a lot of variability as to how measures of physical activity (PA) parenting practices are operationalized making it difficult to integrate results across studies. To develop our item bank, we sought the input of experts to agree on how measures of PA parenting practices targeted at 5-12 yr children should be reconceptualized. Methods: 24 experts from 5 countries (Australia, Canada, Europe, UK & US) sorted 77 PA parenting practice concepts identified from our synthesis of the literature (74 measures) and from surveying 135 Canadian and US parents. Concept Mapping software was used to conduct the multi-dimensional scaling analysis (MDSA) and a cluster analysis of the MDSA solution which we supplemented with input from experts. Results: 10 clusters were identified. Three aligned with the responsiveness continuum - *autonomy support* grouped practices that foster individuality & assertiveness; *encouragement* grouped praise & positive feedback practices; & *modeling/engaging in PA* grouped items related to parents being active themselves or involved in PA with child. Two clusters, the *supporting PA positively* (e.g., enrolling, providing equipment, & helping child be active) and *child monitoring* assessed structural aspects representing ways parents organize their environment. Five clusters fell under the control/lack of control continuum: *safety/academic restrictions* included practices that limited PA due to safety or academic concerns; *high PA expectation* grouped expectations that parents have about being active or being outside & active; *parent centered control* grouped contingency management, disciplinary strategies, and criticism to get child more active; *negative health-related reasoning strategies* grouped practices that guilt child into exercising; and *permissiveness* grouped items that let the child make their own PA decisions. In conclusion, the solution mapped onto general parenting framework of control, structure, and responsiveness and provides a framework for the item bank.

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A083

6:00 PM-7:00 PM

RUNNERS, SWIMMERS, WALKERS, AND CYCLISTS: DIFFERENCES ON SKIN CANCER RISK FACTORS

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Physically active adults experience higher rates of skin cancer and skin abnormalities than inactive individuals, which has been attributed to greater endorsement of multiple skin cancer risk factors (i.e., UV exposure, appearance-related concerns, and exercise-related factors). Although research suggests that people who engage in certain types of exercise may be at greater risk for skin cancer, the endorsement of skin cancer risk factors among individuals participating in different exercise types is unknown. The purpose of this study was to compare joggers/runners to cyclists, to swimmers, and to walkers on skin cancer risk factors. Physically active adults (n=86, M-Age=34.6, 54.7% female) that self-reported cycling (n=11, 12.8%), jogging/running (n=31, 36.1%), swimming (n=9, 10.5%), or walking (n=35, 40.7%) as their primary type of exercise during the summer completed self-report measures of average physical activity, sun exposure, and appearance-related and exercise-related skin cancer risk factors. ANCOVA, binomial logistic regression, Kruskal-Wallis tests, and chi-square tests of independence analyses were conducted to compare joggers/runners to cyclists, to swimmers, and to walkers on skin cancer risk factors. Though sun exposure was comparable among exercise types ($p=0.24$), tanning importance ($X^2(3)=9.112$, $p=0.028$), time/location of exercise ($X^2(6)=15.763$, $p=0.015$), and wearing sunscreen ($X^2(12)=21.863$, $p=0.039$) or sunglasses ($X^2(12)=28.103$, $p=0.005$) during exercise significantly differed between joggers/runners and the other exercise types. Compared to cyclists, joggers/runners reported greater tanning importance ($X^2(1)=3.975$, $p=0.046$) and less use of sunscreen ($X^2(4)=10.289$, $p=0.036$) and sunglasses ($X^2(4)=19.404$, $p=0.001$) during exercise, but less exercise during peak UV hours ($X^2(2)=7.580$, $p=0.023$). Variability in the endorsement of skin cancer risk factors among individuals engaging in different types of exercise suggest that interventions to reduce skin cancer risk in active adults may need to be tailored to exercise type.

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A084

6:00 PM-7:00 PM

SCHOOL-BASED EXERGAME-CYCLING INTERVENTION MAY IMPROVE SELF-REGULATION AMONG CHILDREN WITH BEHAVIORAL HEALTH DISORDERS

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BACKGROUND: There is mounting evidence that aerobic exercise can improve behavioral self-regulation, but research is lacking on exercise interventions among children with complex behavioral health disorders. *Manville Moves* is a novel school-based exercise intervention for children attending a therapeutic day school which integrates virtual-reality exergame-cycling into physical education (PE) curricula. This study examined if *Manville Moves* was linked with less disciplinary time out of class (TOC) and lower impulsivity/hyperactivity (I/H) scores versus the control condition. **METHODS:** A 14-week crossover design was utilized. Children (n=105, 81.25% male, age 11.9±2.3) were randomly assigned by classroom to receive the 7-week intervention during fall or spring. During the intervention, children used the bikes 2 times per week during PE. During the control period, children participated in regular PE focused on games and motor skill acquisition (typically non-aerobic). Real-time data on uptake and adherence, including exercise duration and intensity, were collected via bikes using student-specific login codes. School staff recorded TOC (n=6,489) and completed the Conners Abbreviated Teacher Rating Scale (CATRS-10) (n=5,252) daily for each student using a mobile survey platform. Clinically relevant *a priori* thresholds were established for number of TOC events (5+) and I/H score (CATRS-10 scores ≥15). Mixed effects logistic regression was used to assess treatment outcomes (TOC, I/H score) accounting for individual and classroom random effects. **RESULTS:** During the intervention, children had significantly lower odds of clinically relevant TOC (OR=0.57, 95% CI: 0.34-0.95) and I/H score (OR=0.68, 95% CI: 0.57-0.81) compared with the control. Odds were further reduced (TOC events: OR=0.12, 95% CI 0.03-0.57 and I/H score: OR=0.35, 95% CI: 0.14-0.83) on biking days during the intervention compared with non-biking days in control. **CONCLUSION:** *Manville Moves* shows promise for improving self-regulation among children with complex behavioral health disorders in a therapeutic school setting. Future research should address dose-response patterns and translation to other school settings.

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A085

6:00 PM-7:00 PM

SHORT AND LONG-TERM EFFECTS OF MULTI-MODAL COGNITIVE TRAINING ON PROCESSING SPEED

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Mixed evidence is available that computerized cognitive training (CT) improves cognitive functioning, especially among middle-aged adults. Data for this study were taken from a randomized controlled trial testing the effects of a 20-hr multi-modal CT intervention on exercise adherence, relative to an attention-control condition involving health educational videos. Here, we tested the hypothesis that CT would increase processing speed. A battery of physical, psychological, and neuropsychological assessments was administered at baseline, one month (post-CT) and five months (exercise program end). Middle-aged adults (45-64; M=53.95; 78.2% female; 68.4% with a college degree) were recruited from central Illinois and completed baseline measures of processing speed (*Digit Symbol Substitution Task*, *Letter Comparison*, & *Pattern Comparison*). A composite score was created by calculating an unweighted sum (8 missing values; multiple imputation procedures were used). Change from pre-post CT and post-CT to 5-month follow-up was entered as an outcome in separate analyses of variance (ANOVA). First, a significant group effect was found after CT [$F(1, 132) = 6.37$, $p = .01$, $\eta^2 = .05$], whereby the CT group showed an increase in processing speed. The group effect remained significant after adjusting for age, gender, education, verbal vocabulary, and body fat percentage [$F(1, 129) = 8.83$, $p < .01$, $\eta^2 = .07$]. A significant group effect on speed change was also found across the longer 4-month interval [$F(1, 132) = 4.06$, $p < .05$, $\eta^2 = .03$] and the effect remained significant after adjusting for aforementioned covariates [$F(1, 129) = 5.47$, $p < .05$, $\eta^2 = .04$]. A significant Pearson's correlation between processing speed and exercise adherence (% of total classes attended) was found (2-tailed; $r = .17$; $p < .05$). These results indicate evidence of short and long-term improvements in processing speed. Furthermore, findings offer modest evidence that multi-modal CT may improve physical activity self-regulation via improving cognitive functioning.

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A086

6:00 PM-7:00 PM

SOCIAL COGNITIVE CORRELATES OF PHYSICAL ACTIVITY AMONG PERSONS WITH MULTIPLE SCLEROSIS WHO HAVE ELEVATED DEPRESSIVE SYMPTOMS

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Background/Objectives: Physical inactivity is highly prevalent among persons with MS, particularly those with elevated depressive symptomatology. To that end, those with elevated depressive symptomatology would benefit greatly from behavioral interventions that target change in physical activity participation. This study investigated correlates of physical activity based on Social Cognitive Theory (SCT) in persons with MS who had elevated depressive symptoms as a first step in informing the design of behavioral interventions. **Methods:** Participants (N=551) completed questionnaires on physical activity levels, self-efficacy, social support, outcome expectations, functional limitations, goal setting, and depressive symptoms. The questionnaires were delivered and returned through the US postal service. The respondents were screened for depression based on a score of 8 or higher on the Hospital Anxiety Depression Scale. This resulted in a sample of 185 individuals with clinically meaningful depressive symptoms for statistical analyses. Bivariate correlations and hierarchical multiple linear regressions were conducted using SPSS v.21. **Results:** Self-efficacy ($r=0.16$), functional limitations ($r=0.22$) and goal-setting ($r=0.22$) were significantly ($p < 0.05$) associated with physical activity. Regression analysis indicated that self-efficacy independently predicted physical activity in Step 1 ($\beta=0.15$, $p < 0.05$), but was no longer significant in Step 2 when goal-setting entered the model. **Conclusion:** Variables from SCT, particularly goal setting, represent possible targets of behavioral interventions for increasing physical activity among persons with MS who have elevated depressive symptomatology.

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A087

6:00 PM-7:00 PM

SOCIAL-COGNITIVE CHARACTERISTICS OF PARTICIPANTS IN A PHYSICAL ACTIVITY COMMUNITY-BASED PROGRAM

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A growing body of evidence from both North America and Europe has found self-efficacy (SE), outcome expectations (OE) and social support (SS) to be key factors to understand positive health behaviors like physical activity (PA). On the other hand, community-based programs have been pointed as potentially effective to increase PA levels. Given the dearth of research in both topics from South America, the aim of this study was to characterize participants and non-participants of a community-based program -Recreovia- designed to promote PA, with regard to SE, OE, and SS. The sample was selected based on an age criteria (18 years or older). SE was measured with the Self-efficacy for Diet and Exercise Behavior (Sallis et al., 1988). OE was measured with the Outcome Expectations Scale (King, Taylor, Haskell, & DeBusk, 1989) and the Social Support for Exercise Behavior Questionnaire (Sallis et al., 1987) was used to measure SS. There were 1082 women (70.6%) and 451 men (29.4%) in the sample. The mean age of participants was 41.7 (SD=16.3). The mean score for SE was 44.7 (SD=11.5). The mean score for OE was 131.2 (SD=18.0), and for SS it was 4.4 (SD=3.6). All mean scores indicate a good perception of social-cognitive variables regarding PA behavior. As expected, Recreovia participants reported higher levels of SE (Mdn=48.0, SD=11.0) in relation with non-participants (Mdn=46.0, SD=11.6) ($U[1533]=234086.0$, $pU[1533]=231236.0$, $pU[1533]=251048.5$ $p=.39$). In sum, to participate in Recreovia was positively associated with higher perceptions of SE and SS, but no association was found regarding OE. Further work is necessary to better understand relationship between Recreovia program and these social-cognitive variables.

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A088

6:00 PM-7:00 PM

SUSTAINABILITY OF PHYSICAL ACTIVITY ENVIRONMENTS FOLLOWING A STRUCTURAL INTERVENTION IN RESIDENTIAL CHILDREN'S HOMES

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Evidence examining the sustainability of health promotion programs and influences affecting sustainability within organizational settings is limited. Environmental Interventions in Residential Children's Homes (ENRICH) was a structural intervention that targeted environmental changes to promote physical activity (PA) among youth within residential children's homes (RCHs). This study examined the sustainability of ENRICH PA environments and influences on sustainability within RCH settings. A sustainability survey was administered to 14 RCHs two-years after receiving the ENRICH intervention. Dependent and independent variables included sustainability of ENRICH PA environments (e.g. sustained PA activities that supported PA environments during the previous year), RCH characteristics, organizational influences (e.g. resources, support, infrastructure, and planning), perceived organizational and individual benefits, and implementation of PA-specific and Global (i.e. RCH Wellness Team) activities, respectively. Activities reported as sustained and barriers to sustainability were used descriptively to inform the extent that ENRICH PA promoting environments were sustained. ANOVAs were used to compare sustainability of ENRICH PA environments by level of PA-specific and Global implementation. PATH analyses were used to examine the relationship between sustainability influences and sustainability of ENRICH PA environments ($p < 0.10$). Evidence for sustainability was found in 8 of 14 (57%) RCHs who demonstrated higher Global versus PA-specific implementation ($p=0.022$). PATH analyses revealed Global implementation mediated the relationship between organizational influences and sustainability of ENRICH PA environments ($b=0.27$, $p=0.065$). Findings suggest that organizational factors including available resources, support, communication, infrastructure, and planning may be important for building organizational capacity to implement and sustain activities that promote PA environments within the RCH organization.

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A089

6:00 PM-7:00 PM

THE ASSOCIATION OF HEALTH LITERACY WITH PHYSICAL ACTIVITY AND WALKING IN COMMUNITY-DWELLING OLDER ADULTS

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Objectives: To examine the association of health literacy (HL) with physical activity and adherence to physical activity guidelines in older adults. **Methods:** Cross-sectional data from a population-based study in Alberta were used. HL was assessed using 3 screening questions. Moderate-to-vigorous physical activity (MVPA) and metabolic-equivalent of task (MET) minutes/week were computed from the Godin Leisure-Time Exercise Questionnaire. Walking was assessed using a pedometer. Scores ≥ 150 for MVPA-minutes/week, ≥ 600 for MET-minutes/week, and ≥ 8000 for pedometer-measured steps/day indicated meeting physical activity guidelines. **Results:** Mean age of participants (N=1296) was 66.4 (SD 8.2) years, 57% were female, 94% Caucasian, 9% had inadequate-HL, and 46% met guidelines for self-reported physical activity and 18% for pedometer-measured walking. Participants with inadequate-HL had non-significant adjusted decrements of 58 MVPA-minutes and 218 MET-minutes/week; however, were less likely to achieve physical activity guidelines (MVPA:OR=0.63, $p=0.037$; MET:OR=0.65, $p=0.057$) compared to their counterparts. Such differences were non-significant for pedometer-measured walking. **Conclusion:** Inadequate-HL was associated with less likelihood of meeting MVPA guidelines based on self-reported physical activity. These associations were nonexistent when an objective measure of walking was considered as an estimate of daily physical activity.

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A090

6:00 PM-7:00 PM

THE FRIEND ZONE- FRIENDSHIP MODERATES THE IMPACT OF A WEB-BASED GROUP DYNAMICS APPLICATION ON GROUP COHESION: A RANDOMIZED TRIAL

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Purpose: Face-to-face group dynamics-based (GDB) programs have been shown to be effective in promoting group cohesion and PA. Recent evidence suggests that GDB principles can be successfully translated to web-based applications to impact group cohesion. The social nature of such applications allows for interactions to occur between friends and strangers alike, potentially moderating the effects of such GDB applications. Optimal group composition within GDB web applications has yet to be determined. The present study examines the moderating effects of group composition in a GDB application on group cohesion and physical activity. **Methods:** Participants ($n = 116$) were randomized into same-sex pairs and then randomly assigned to an experimental condition: stranger (no app), stranger (using app), friend (using app) or individual control. Participants in all conditions performed two sets of planking exercises. In between sets, those in partnered conditions interacted with their partner using a GDB social media app, where they participated in a series of team-building activities. The main dependent variables were group cohesion and physical activity, calculated as the difference in exercise duration between Set 1 and Set 2 (corrected for fatigue). **Results:** Results indicate that group cohesion was higher in groups that used the application ($M=5.23$, $SD=1.19$) than those that did not ($M=4.19$, $SD=1.35$, $p < .01$). Friends that used the app reported greater cohesion ($M=5.66$, $SD=.955$) than strangers ($M=4.65$, $SD=1.24$, $p < .01$). There was no significant difference in physical activity between participants in partnered conditions ($M=18.57$, $SD=53.13$) and the individual condition ($M=0.0$, $SD=53.94$, $p=.156$). **Conclusions:** Group cohesion can be enhanced through the use of an online GDB application. Using an online GDB application with a friend is associated with higher levels of cohesion. Further research is necessary to identify effective online GDB applications for impacting physical activity and cohesion in field settings.

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A091

6:00 PM-7:00 PM

THE NARRATIVE IMPACT ON CHILDREN'S STEP COUNTS DURING ACTIVE VIDEO GAME (AVG) PLAY

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Active video games (AVGs) is an innovative method of increasing PA with promising health outcomes for child obesity prevention. But the obesity-combating potential of AVG cannot be realized if players do not play in sufficient dosage. Narratives may be an important method of motivating AVG play.

According to narrative transportation theory, the more a narrative immerses a person into a story world, the more consistent their beliefs and behaviors should be with that narrative. Narratives may have a crucial role in motivating increased game play in AVGs through their immersive properties, resulting in increased engagement, but their role has not been explored. As the first study to systematically explore narrative's effect on children's AVG play, this project addressed a research question: Will a narrative version of an AVG result in a higher PA level?

A total of 40 overweight and obese children (Male = 50%) 10 to 12 years of age from highly diverse backgrounds in an urban area played an AVG involving the trunk movement. Half ($N=20$) watched a narrative-based video trailer (developed for the AVG and tested among another 40 children previously) before the game play. The other half ($N=20$) played the AVG without viewing the narrative trailer. Children were instructed to play as long as they would like. PA levels (via Sensewear armband and ActiGraph wGT3X-BT) were recorded and analyzed.

Results indicated that children in the narrative group had significantly ($p < .05$) more steps during play in terms of the average number of steps per 10s period ($M=3.2$, $SD=0.7$) and in total ($M=523$, $SD=203$) across the entire play period when compared with the non-narrative group ($M=2.7$, $SD=0.7$) ($M=366$, $SD=172$). Therefore, narrative increased PA in children playing an AVG as evidenced by increased and average number of steps per 10s period and total step counts. More studies should explore story immersion to maximizing AVG's intervention outcomes.

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A092

6:00 PM-7:00 PM

THE RELATIONSHIP BETWEEN EXERCISE SELF-EFFICACY, HIGH SCHOOL PHYSICAL ACTIVITY, AND COLLEGE STUDENTS' PHYSICAL ACTIVITY

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As we age, participation in physical activity (PA) is limited by professional and family responsibilities. A decrease in PA can contribute to medical conditions such as obesity, type 2 diabetes, and CVD. Thus, it is important to understand the types of activity in which people are engaging and explore the determinants that may increase the likelihood of lifelong PA. The current study documents the types and amount of PA in which undergraduate students engage. It also examined the relationship among specific types (e.g., weight/shape focus, individual, vigorous) of H.S. PA, level of college PA, and exercise self-efficacy. Undergraduate students completed surveys on H.S. and college PA habits (Sport and Activity Participation questionnaire), exercise self-efficacy (Physical Activity Assessment Inventory), and demographics using a secure online website (psychdata.com). The sample consisted of 280 college students, ages 18-24, ($M=19.37$). A majority of the sample identified as female (79%), White (60%), with a mean weight of 139.4 lb. for females and 176.5 lb. for males. 34.4 % of the sample met the NIH guidelines, 150 minutes of moderate or 75 minutes of vigorous activity per week. In college, 29% of the total activities reported were classified as cardiovascular exercise at the gym and softball (7%) and walking (6.5%) were the two most frequently reported activities. Separate bootstrapping analyses were performed to determine the amount of variance in adult PA accounted for by the three H.S. activity characteristics that was mediated by exercise self-efficacy. There was a significant indirect effect of minutes of weight/shape focus ($b = .033$, BCa CI [0.011, 0.073]), individual sports ($b = .046$, BCa CI [.0167, .0757]), and vigorous activity ($b = .066$, BCa CI [.030, .1175]) in H.S. on minutes of college PA through self-efficacy. Self-efficacy was identified as a potential factor of interest for future research endeavors focused on maintenance of PA through the lifespan and a potential point of intervention for undergraduate institutions working towards increasing PA.

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A093

6:00 PM-7:00 PM

THE SUITABILITY OF AN EXERCISE FACILITATION APPLICATION FOR AN EMPLOYEE WEIGHT LOSS PROGRAM

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An integrated research-practice partnership identified Fitnet, a free exercise facilitation application (app) where users follow a pre-recorded trainer through segments of 6, 5-minute cardio, strength, or flexibility videos labeled as beginner, intermediate, and advanced. A camera imbedded in a tablet provides participant feedback by counting movements. Prior to integrating Fitnet into a healthcare employee weight management program, we developed a mixed methods approach to determine: 1) the ability of the app to facilitate increasing exercise intensity across beginner, intermediate, and advanced levels, and 2) employee perceptions of the app. Over 3 days, 20 healthy adults completed 6, 30-minute strength and cardiovascular sessions at each level, with a break every 15 minutes. Heart rate (HR), rating of perceived exertion (RPE), and accelerometry (AC) were used to measure intensity. Employees ($n=25$) in a weight loss program provided qualitative feedback. Level and exercise type explained significant variance in exercise intensity in HR, RPE, and AC ($R^2=.91$, .78, and .72, respectively, $p's < .05$). For cardio sessions, exercise intensity significantly increased across beginner, intermediate, and advanced levels: HR (range 110±25 to 135±20 bpm), RPE (10±1 to 14±2), and AC (1818 ±1261 to 7121±4670). Similarly, strength sessions increased intensity: HR (range 103±14 to 122±18 bpm), RPE (10±1 to 14±3), and AC (1113±1013 to 2061±1354). Camera count data was significantly and inversely related to exercise intensity in both cardio and strength sessions. Qualitatively, employees had safety concerns with some progressions and found the inconsistent camera count at intermediate and advanced levels demotivating. However, employees also found the 24-hour convenience and low cost of the app very appealing. Fitnet is able to facilitate increasing levels of exercise intensity and is appealing to program participants, but future work is needed in developing a graduated approach to address employee safety concerns and improve camera movement tracking for higher intensity exercise.

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A094

6:00 PM-7:00 PM

UNDERSTANDING ACTION CONTROL OF DOG WALKING

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Objective: Dog walking is a viable means to achieve health benefits, yet almost half of owners are not regularly walking their dogs. Current research into the correlates of dog walking has generally considered intention as the primary determinant of behavior, yet the intention-behavior relationship is modest. The purpose of this paper was to apply a framework designed to evaluate the intention-behavior gap, known as multi-process action control (M-PAC), to understand daily dog walking. **Method:** A community sample of adult dog owners ($N = 227$) completed M-PAC measures of motivational (dog and human outcome expectations, affective judgments, perceived capability and opportunity), regulatory (planning), and reflexive (automaticity, identity) processes as well as intention to walk and behavior. **Results:** Three intention-behavior profiles emerged: 1) nonintenders (26%; $n=60$), 2) unsuccessful intenders (33%; $n=75$), and 3) successful intenders (40%; $n=91$). Congruent with M-PAC, a discriminant function analysis showed that affective judgements ($r = .35$), automaticity ($r = .42$), and planning ($r = .33$) distinguished between all three intention-behavior profiles, while identity also contributed to the discriminant function ($r = .26$) and differentiated between successful and unsuccessful intenders. **Conclusion:** The majority of dog owners have positive intentions to walk, yet almost half fail to meet these intentions. Difficulties with translating these intentions into action stem largely from affective judgments about walking, behavioral regulation, habit, and identity. Addressing these should be the focus of interventions aimed at improving action control over dog walking.

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A095

6:00 PM-7:00 PM

UNPACKING THE BLACK BOX: A PROCESS EVALUATION OF AN AFTERSCHOOL PHYSICAL ACTIVITY INTERVENTION FOR MIDDLE SCHOOL YOUTH

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Formative process evaluation has been identified as a gold standard for health-based intervention implementation, making the “black box” of implementation visible and informing course corrections as necessary to achieve fidelity and successful implementation. However, few intervention studies to date report the use of formative process evaluation. The purpose of the current paper is to demonstrate the usefulness of process evaluation for improving implementation of the Promoting Positive Leisure Activities for Youth (PLAY) afterschool physical activity intervention. The goal of the Promoting PLAY Project is to increase youth physical activity (PA) within afterschool programs by improving the PA social motivational climate (e.g., emphasizing social benefits of PA such as developing friendships, a sense of group belonging, and staff connection as the primary goal, purpose and achievement of PA). The process evaluation consisted of objective observations conducted by a trained blind coder ($N=28$ observation sessions) that evaluated dose and fidelity (58 items) of staff and climate-based program essential elements. Overall, adequate dose across program activities was achieved (75-100%). Adequate fidelity of 75% or more observations with a score of 3 (most/all the time) was achieved for 33 items; it was not met for 25 items. Two examples of staff achieving 100% fidelity were positive staff-child interactions and promoting fairness/respect. Findings indicate staff could improve low fidelity in promoting several social goals (i.e., sharing successes and PA strategies with each other), seeking more input/feedback from youth (13%), and conveying that PA is for everyone (33%). Moreover, afterschool staff were rarely observed assisting or participating in the activities with youth. The poster will detail how findings from the process evaluation will be used to modify the program manual and staff training protocol to improve engagement, buy-in, and sustainability in year 2 of implementation.

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A096

6:00 PM-7:00 PM

USE OF POPULATION REFERENCED PERCENTILES FOR TOTAL ACTIVITY TO CHARACTERIZE ACTIVITY LEVELS OF NEW YORK CITY ADULTS

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Background: Population-referenced total activity counts per day (TAC/d) percentiles provide public health practitioners a standardized measure of physical activity (PA) volume, obtained from an accelerometer, that can be compared across populations. **Purpose:** To describe the application of U.S. population-referenced TAC/d percentiles to characterize the PA levels of New York City (NYC) adults across boroughs. **Methods:** A total of 679 adults participating in the 2011 NYC Physical Activity Transit survey wore an ActiGraph accelerometer on their hip for seven consecutive days. Accelerometer-derived TAC/d was classified into age- and gender-specific quartiles of U.S. population-referenced TAC/d to compare differences in the distributions by borough ($N=5$). **Results:** Males in Brooklyn, Manhattan, and Staten Island had significantly greater TAC/d than U.S. males. Females in Brooklyn and Queens had significantly greater levels of TAC/d compared to U.S. females. The proportion of males in each population-referenced TAC/d quartile varied significantly by borough ($\chi^2(12)=2.63$, $p=0.002$), with disproportionately more men in Manhattan and the Bronx found to be in the highest and lowest U.S. population-referenced TAC/d quartiles, respectively. For females, there was no significant difference in U.S. population-reference TAC/d quartile by borough ($\chi^2(12)=1.09$, $p=0.36$). **Conclusions:** These results provide important insights into the PA levels of NYC residents by borough and relative to the U.S. population, which can be used to guide health promotion efforts. In addition, these findings demonstrate the utility of TAC/d percentiles in public health including monitoring, surveillance, and program evaluation.

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A097

6:00 PM-7:00 PM

USING PARENTAL ACTIVE TRAVEL BEHAVIOR AND BELIEFS TO PREDICT AT TO SCHOOL AMONG CHILDREN

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Despite the numerous health benefits of physical activity, rates remain low among children. Active travel (AT; i.e., walking and biking) has been shown to be a useful technique to meet PA recommendations and improve health. As parents have a major influence on their children's health and health behaviors, it is important to examine how parental AT and related correlates predict AT among their children.

Purpose. This study aimed to predict AT of children to school based on parental behavior and beliefs. **Methods.** This was a cross-sectional study of employed adults with a survey distributed online. Recruitment took place primarily in the mid-Atlantic United States. Participants reported on commuting mode to work for themselves, their spouse and their children, demographics, and AT correlates at each level of the social ecological model. **Results.** Of those who completed the survey ($N=344$), 12.2% ($n=41$) parents reported that any of their children were active travelers. Children had higher odds of actively traveling to school if: their parents were active travelers ($OR=1.23[1.12-1.34]$, $ppp=.001$), greater parental perceived community pedestrian friendliness ($OR=1.49[1.11-2.11]$, $p=.007$), greater parental perceived community bike friendliness ($OR=1.34[1.00-1.78]$, $p=.047$), more community supports for AT ($OR=2.06[1.39-3.04]$, $pp p=.005$) and more cars in the household ($OR=.47[.30-.72]$, $p=.001$). **Conclusions.** These findings suggest that AT to school among children is directly influenced by the travel behavior, attitudes, and beliefs of their parents. These findings highlight the importance of improving AT correlates among adults to increase AT among their children.

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A098

6:00 PM-7:00 PM

WITHIN-PERSON RELATIONS BETWEEN PHYSICAL ACTIVITY LAPSES AND PARTNER COMMUNICATION IN A PHYSICAL ACTIVITY PROGRAM FOR WOMEN

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Many individuals attempting to increase physical activity (PA) experience “lapses” in which they do not exercise as intended. Social support and contact in online social networks have been positively associated with PA outcomes, but it is unknown whether social contact is related to lapse occurrence. Communicating with a PA partner has the potential to prevent lapses from occurring or to facilitate recovery from lapses. This study had two main goals: (1) to examine the relations between reported PA lapses and objectively-measured PA among participants in an online PA program, and (2) to test for time-sensitive relations between communication with assigned program partners and lapse frequency. Participants ($n=20$ women, $M_{\text{age}}=50$, $M_{\text{BMI}}=30.9 \text{ kg/m}^2$) used wristworn PA sensors to monitor PA and were assigned partners for PA-related support. All participants attempted to increase PA over six weeks. Participants completed a weekly survey to assess frequency of reported lapses and partner communication. The average participant reported two lapses per week ($M=2.10$) and communicated with her partner twice per week ($M=2.09$). Approximately 35% of variability in reported lapse frequency was due to within-person change during the program ($\text{ICC}=0.65$). Participants who reported more frequent lapses also showed lower daily step totals ($B=-1426$, $p < 0.01$) and daily minutes of moderate-to-vigorous PA ($B=-6.59$, $p=0.02$). Controlling for a person's average frequency of partner contact, multilevel mixed models showed a significant within-person effect of partner contact. During weeks that participants reported more frequent partner communication than typical, they also reported fewer lapses than average ($p < 0.001$). These findings suggest that, as expected, more frequent lapses are associated with less PA. Additionally, greater-than-average social contact is associated with fewer lapses. Although replication is needed, these results provide preliminary support for social contact as a means to reduce PA lapses and potentially improve overall adherence to PA goals.

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A099

6:00 PM-7:00 PM

BEHAVIORAL & SOCIAL SCIENCES RESEARCH AT THE NIDCR: HELPING IMPROVE THE NATION'S ORAL, DENTAL, AND CRANIOFACIAL HEALTH

Melissa Riddle, PhD, Dave Clark, DrPH, Dawn A. Morales, PhD

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Oral health researchers have had tremendous success in identifying behavioral and social processes related to oral health, and in developing effective interventions to improve some aspects of oral health. Despite these successes, many individuals still do not enjoy optimal oral health, and more work is needed. In addition to the continued good work of those in the oral health field, collaborations with scientists from the behavioral medicine field may help to make discoveries that transform oral health for all people. This poster is meant to be an introduction to the National Institute of Dental and Craniofacial Research (NIDCR), National Institutes of Health (NIH), and an invitation to members of the SBM community to apply behavioral medicine expertise to the challenges faced in the oral health field.

NIDCR's mission is to improve oral, dental, and craniofacial health through research, research training, and the dissemination of health information. As many of the conditions of interest to the institute have strong behavioral and social components, behavioral medicine research is essential to achieving that mission. The most common oral diseases are dental caries and periodontal disease. The etiologies of these diseases are largely known, with health behaviors playing an essential role. The role of behavior in dental caries is so widely recognized that a recent international task force convened by the World Dental Federation suggested that caries be redefined as “an example of a behavioural disease with a bacterial component...” (p. 231).

Dental caries and periodontal disease are only two of many dental, oral, and craniofacial (DOC) disorders of interest to the NIDCR. Each of the DOC disorders in NIDCR's mission has a unique set of behavioral and social correlates, and each calls out for collaborations between oral health and behavioral medicine researchers. Opportunities for such collaborations can be found by focusing on the health behaviors that are common to multiple diseases and conditions, including oral health. These challenges include addressing less-than-optimal adherence to medical regimens, making care accessible to patients with special needs, and leveraging technology to design care that is effective and efficient. Examples of ongoing NIDCR-funded research addressing these challenges are presented.

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A100

6:00 PM-7:00 PM

COACHING ON MOTIVATIONAL INTERVIEWING: EFFECT ON CLINICIAN AND PATIENT SATISFACTION IN PRIMARY CARE AND PEDIATRIC OFFICES

Kathryn I. Pollak, PhD, Paul Nagy, LPC, Alicia Bilheimer, MPH, Pauline Lyna, MPH, Fred Johnson, MBA, Sarah Armstrong, MD

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Objective: Patient-clinician communication is directly linked to patient and clinician satisfaction. Motivational interviewing (MI) shows promise as an effective approach in health care encounters for promoting behavior change and improving patient satisfaction. The effect of MI on clinician satisfaction is unknown. In this pilot study, we tested a coaching intervention to teach MI to all staff in primary care and pediatric obesity-focused clinics in an attempt to improve clinician and patient satisfaction. **Method:** We included four clinics ($n=29$ staff members). In the intervention clinics (one primary care and one pediatric obesity-focused), we trained all clinic staff in MI through meetings as a group seven times, directly observing clinicians in practice 4–10 times, and providing real-time feedback on MI techniques. In all clinics, we assessed patient satisfaction via anonymous surveys and also assessed clinician burnout and self-rated MI skills. **Results:** In the pediatric clinics, clinicians in the intervention clinic reported improvements in burnout scores, self-rated MI skills, and perceived cohesion whereas clinicians in the control clinic reported worse scores post-intervention for depersonalization, emotional burnout, personal accomplishment, self-rated MI skills and team cohesion. We found that patients in both control clinics started with higher satisfaction scores than patients in the intervention clinics. Slightly larger improvements in patient satisfaction were seen in the intervention clinics than in the control clinics. **Discussion:** This is the first study to attempt to train an entire clinic staff in MI via a coaching model. We found that training the staff improved clinician satisfaction, team cohesion, and perceived skills as well as anonymous patient satisfaction. A larger trial of this coaching model is needed.

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A101

6:00 PM-7:00 PM

COMPARING COMPREHENSION OF DIABETES PREVENTION OBJECTIVES WHEN DELIVERED IN CLASS OR DVD FORMAT

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Methods: As part of a larger trial patients were either randomly assigned or chose to receive an evidence-based diabetes prevention intervention using a DVD or class to initiate the process of weight loss. All participants completed a teach-back call, a health literacy strategy that allows patients to demonstrate mastery of key intervention objectives as well as receive feedback on responses. Specifically, during the call participants set weight-loss, physical activity (PA) and diet goals and responded to six questions reinforcing key learning objectives. Participants reviewed the 6 questions to ensure understanding and missed questions were repeated up to two more rounds of assessment. A lower number of questions missed on round 1 and rounds of review reflected better comprehension as a result of the diabetes prevention DVD or class. Comparisons were analyzed using ANCOVA and descriptive calculations. **Results:** A total of 339 eligible participants have completed a teach-back call with 53% ($n=178$) and 47% ($n=161$) being assigned to DVD and class, respectively. Participants were primarily female (72.2%, $n=245$) with 16.2% ($n=55$) being African American, an average BMI of 37.1 ± 6.9 , and an average age of 53.1 ± 11.8 . When controlling for time between class attendance/watching the DVD and age, the ANCOVA showed statistically significant differences between the DVD and class for: 1) the number of teach-back questions missed on Round 1 ($F=16.1$ $p=0.000$, $M(\text{DVD})=1.8 \pm 1.6$, $M(\text{class})=2.6 \pm 1.8$); 2) teach-back rounds completed ($F=3.5$ $p=0.02$, $M(\text{DVD})=1.9 \pm 0.67$, $M(\text{class})=2.1 \pm 0.68$). **Conclusion:** A DVD can be used to replicate typical diabetes prevention classes and may be more successful in supporting patient comprehension of key concepts. More research is needed evaluating comprehension and its impact on behavior change.

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A102

6:00 PM–7:00 PM

DISPARITY IN MENTAL HEALTH MEASUREMENT AMONG FEMALE VETERANS IN VA INTEGRATED CARE

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Since 2000, the number of female veterans receiving care at Veterans Affairs healthcare facilities has increased. Prior research has established that female veterans are more likely than male veterans to be diagnosed with a mental health (MH) condition, particularly depression and anxiety. Integrated primary care (IPC) plays a key role in the delivery of both routine screening and symptom monitoring for MH, and is critical to the implementation of patient-centered, stepped-care. However, our previous work has demonstrated that female veterans were *less likely* than males to have received screening or symptom measurement for MH conditions in IPC (Beehler et al., under review). To better understand this disparity, the current study reanalyzed our previous data on the frequency of screening and symptom measurement among female veterans treated in IPC. We examined a subset of data drawn from a larger retrospective study of veterans' electronic medical records that included patient demographics and provider/clinic characteristics for the frequency of screening or symptom measurement for depression, PTSD, or anxiety. This secondary analysis included female veterans ($N = 1008$) who received treatment in VA IPC clinics in Upstate New York from 2012–2013. Overall, screening or symptom measurement was documented in 18.2% of cases, with rates of screening (e.g., 41.5% for depression, 36.6% for PTSD) substantially higher than symptom measurement (e.g., 15.8% for depression, 19.1% for PTSD, 8.2% for anxiety). The prevalence of repeated assessments was small, (range 0.5%–2.2%). Patient age, service era, private insurance status, diagnosis, facility size, and number of IPC visits were significantly associated with documentation of screening or symptom measurement. This study helps clarify the disparity in rates of screening or symptom measurement among women treated in IPC clinics. Limitations and future directions will be discussed.

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A103

6:00 PM–7:00 PM

E-HEALTH EDUCATION TO REDUCE MEDICATION MANAGEMENT HASSLES FOR INTERGENERATIONAL CAREGIVERS OF CHRONICALLY ILL OLDER ADULTS

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Background: Older adults have more chronic medical conditions and a corresponding higher rate of medication use, spending three times the national average for prescription drugs (Medco, 2008). Medication mismanagement and errors have dire consequences for seniors, including a higher risk for falls (Berry et al., 2010), delirium (Inouye, 2006), excess disability and hospitalizations (Bates, 2007). Many older adults have close reciprocal relationships with younger members of their family, and receive some form of assistance due to physical or cognitive limitations. Women are disproportionately likely to provide such assistance to aging family members; approximately 53 million in the US are involved with the healthcare of aging parents, in-laws, grandparents or other relatives (U.S. Bureau of the Census, 2009). Few community-based health education programs offer support for this population of intergenerational caregivers involved in medication management. **Methods:** In this online education project, women ($N=97$) who assist an older relative with healthcare appointments and medication management were randomly assigned to one of two formats of health education materials on the internet: (I.) Traditional written and short video clips of information and suggestions from medical experts, or (II.) Multimedia vignettes depicting actors encountering and responding to common healthcare challenges including managing healthcare appointments, medication challenges, signs of cognitive impairment, and communication with the older adult. Participants completed online assessments at intake and post-intervention. **Results:** Compared to those in the comparison didactic condition, intergenerational caregivers in the web-episode condition reported at post-intervention decreased medication-management hassles and improved use of medication-management strategies [$t(1,95) = 2.29, p < .05$]. **Conclusions:** Consistent with Bandura's self-efficacy theory (1997), observational learning from similar others is a more powerful way to shape efficacy beliefs than expert opinions. Challenges to this intervention will be addressed, including the wide range of website usage demonstrated across study participants.

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A104

6:00 PM–7:00 PM

ELECTRONICALLY-DELIVERED MULTI-COMPONENT INTERVENTION TO REDUCE ANTIBIOTIC OVER-PRESCRIBING IN PRIMARY CARE.

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Background: Antibiotic resistance is a growing problem that transcends national boundaries. In the UK, 80% of all antibiotics are prescribed within primary care, and 50% of prescriptions may be unnecessary. **Objectives:** This study is a cluster randomised trial (CRT) conducted using electronic health records (EHRs). The aim of the trial is to influence clinicians' antibiotic prescribing behaviour in respiratory tract infections. The presentation will describe the trial design and intervention development. **Methods:** Intervention development drew on Social Cognitive theory, systematic review evidence, clinical guidelines, qualitative research with non-trial practices and empirical data from analysis of EHRs. **Results:** Analysis of pre-intervention EHR data for 608 general practices showed that antibiotics were prescribed at median 53% (95% range 34% to 72%) of RTI consultations. The CRT will be conducted in 120 general practices with more than one million registered patients from October 2015. During the intervention development phase, we developed a webinar, decision support tools delivered through practice systems, and practice prescribing reports derived from analysis of EHR data. Three minute web-based training (webinars) to promote effective utilisation of the intervention materials will be delivered before the intervention start. Prescribing support tools will appear on intervention family practitioners' screen during consultations for specific RTIs. These tools will be installed onto family practice information systems remotely as an add-on to existing software. Each practice in the intervention arm will also receive monthly feedback on their antibiotic prescribing in the preceding month from EHR analysis (*major novel component*). Qualitative interviews ($n=37$) identified potential barriers to engagement and informed intervention design and delivery. **Conclusions:** The interventions for this trial will be delivered through electronic media in order to change antibiotic prescribing behaviour in primary care. Behavioural theory and qualitative research were used to enhance the effectiveness of intervention design. The trial is pragmatic and findings could be easily translated into routine practice.

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A105

6:00 PM–7:00 PM

IMPROVING MEDICATION ADHERENCE IN PATIENTS WITH MULTIMORBIDITY: OUTCOMES OF A PILOT INTERVENTION IN A RURAL PRIMARY CARE CLINIC

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Background: More than 25% of primary care patients are managing multiple chronic conditions (MCC) and 50% of medications are not taken as prescribed. Self-efficacy is the foundation of successful medication adherence (MA) and self-management single disease interventions. Interventions designed within a self-efficacy framework and tailored for the primary care setting could improve MA and outcomes for patients with MCC. **Methods:** Participants were adult patients at a Federally Qualified Health Center. The intervention (4 group and 2 telephone sessions) provided MA education and cognitive and behavioral skills training. Data was collected at baseline and post-treatment. **Results:** The sample ($N=53$) had on average 5 chronic conditions and 7 medications, were 57 years, 50% male, 95% Black, and 75% were unemployed and income < \$10,600. Baseline results indicated that MA scores had statistically significant negative associations with the Health-related Problem-solving Scale (HPSS) Total scores ($r=-0.489, p=0.024$). The HPSS Effective Problem Solving subscale had statistically significant positive associations with the Chronic Disease Self-efficacy Scale (CDESE; $r=0.593, p=.006$). Outcome analyses results of the intervention sample ($N=20$) indicated that there were statistically significant improvements on the CDESE Self-management subscale ($p=.005, d=.96$), the CDESE Social Activities subscale ($p=.005, d=.66$), the HPSS Effective Problem-Solving subscale ($p=.028, d=.69$), and the HPSS Positive Transfer subscale ($p=.010, d=.85$). Improvements on the MA scale and the HPSS Total score fell short of significance. **Conclusions:** Participants reported poorer MA and poorer HPSS scores compared to single disease samples. Poorer MA was associated with poorer problem-solving skills while higher self-efficacy was associated with better problem-solving skills. Participants reported significant improvements on factors theoretically and empirically linked to MA and health outcomes. Research with larger samples and longer follow-up is needed in order to further evaluate the efficacy of this treatment.

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A106

6:00 PM-7:00 PM

PATIENT UNDERSTANDING OF THEIR HEALTH CONDITIONS: MOTIVATION, COMMUNICATION AND USE OF A PERSONAL HEALTH RECORD (PHR)

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It is critical for patients to understand their health conditions in order to active manage their health. Many factors may contribute to patients' perception of understanding their health conditions, including demographic, communication, and motivational factors. Patient motivation may be affected by includes access to and understanding of resources such as a personal health record (PHR). A survey of 810 patient participants receiving care in primary care clinics in rural communities was conducted to understand the relationships between patient's experience, information access and seeking and self reported understanding of health conditions . Patients with at least one chronic illness were more heavily recruited to ensure that participants had a need for regular follow-up care and interaction with their provider. The participants were likely to report a chronic illness (79%) and were largely female (61%, 39% male) with 42% over age 65 and mean education level above high school graduation. The telephone survey asked participants to relate their experiences with their physician over the preceding twelve months, including communication with physicians about sensitive issues - namely whether the their physician asked them about feeling depressed , their motivation for monitoring health conditions, their use of a personal health record, and their self reported understanding of the health conditions. . A regression model examining patient reports of understanding their personal health conditions demonstrated that age, gender , and reporting a chronic illness were unrelated to self-reported understanding. Patient level of education ($\beta = .10$; $p < .01$), comfort with internet use ($\beta = .14$; $p < .01$), use of a personal health record ($\beta = .11$) $p < .01$, physician inquiring if they had felt depressed $\beta = .09$; $p < .05$ and reported willingness to monitor health conditions ($\beta = .27$; $p < .01$) were associated with self reported understanding ($F(8, 710) = 17.32$; $p < .01$). Results suggest that motivated patients who are comfortable accessing information and using a personal health record may be able to understand their health conditions better. To develop interventions to promote patient understanding it may be important to assess patient motivation, communication, and to understand the relationship between personal health record use and patient understanding.

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A107

6:00 PM-7:00 PM

PREDICTORS OF SEEKING CARE: A MULTI-GROUP ANALYSIS

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The rising rate of chronic health conditions and the aging population have created a need for assistance in obtaining quality health care. Health care advocates (HCAs) can help patients navigate the health care system, research treatment options, and provide in-home support. It is important to determine the populations and circumstances in which HCAs would be helpful in order to increase the probability that they will be used when appropriate. The present study applied the Andersen-Newman model of health care use to identify the factors that predict the likelihood of hiring an HCA for oneself or for a parent. Data were collected from 1,740 randomly selected participants in two separate studies. Participants completed a brief vignette-based questionnaire that indicated their likelihood of hiring an HCA for oneself or a parent, should they become ill or injured.

Confirmatory factor analysis and structural equation modeling were used to test the effects of predisposing factors, enabling factors, and illness on the predicted likelihood of hiring a health care advocate for oneself (model 1) or a parent (model 2). Neither model 1 ($\chi^2[16, N = 650] = 31.095, p = .013, CFI = .962, RMSEA = .040$) or model 2 ($\chi^2[16, N = 1740] = 33.875, p = .006, CFI = .963, RMSEA = .044$) fit well statistically, but they did fit well descriptively. The direct path from predisposing factors to enabling factors was significant in model 1 ($b = .550, p < .05$) and model 2 ($b = .511, p < .05$). The indirect path from predisposing factors to illness level was significant in model 1 ($b = .296, p < .05$) and model 2 ($b = .472, p < .05$). No other paths were significant for either model.

These results suggest that similar factors affect the decisions to hire an HCA for oneself or a parent. Understanding the factors that influence the decision to hire an HCA could potentially help health providers and policy makers reach and serve patients who are most likely to use HCA services. Successfully targeting these groups could reduce overall cost and burden on the health care system, and improve quality of care for patients.

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A108

6:00 PM-7:00 PM

PRIMARY CARE BEHAVIORAL HEALTH PROVIDER PERCEPTIONS OF THE PPAQ TOOLKIT FOR QUALITY IMPROVEMENT

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The Primary Care Behavioral Health Provider Adherence Questionnaire (PPAQ) is a psychometrically sound measure of model fidelity for Primary Care Behavioral Health (PCBH) providers. Although this tool was designed primary to assess provider practice patterns in research studies, the aim of this pilot quality improvement project was to examine provider perceptions of the strengths and weakness of a PPAQ-based toolkit for improving clinical practice.

Twelve PCBH providers from the Veterans Health Administration completed the PPAQ toolkit consisting of the PPAQ self-report form, voice-over PowerPoint presentation, and an electronic scoring and interpretation guide. Providers subsequently participated in a semi-structured interview to provide feedback on toolkit strengths and weaknesses. Interviews were analyzed using qualitative content analysis.

The toolkit yielded high ratings of acceptability, perceived utility, and overall satisfaction as an approach to practice improvement. Analysis revealed that the key strengths were related to toolkit usability (i.e., brevity, clarity of presentation, scoring features), its value as a self-assessment for identifying level of adherence, and its ability to capture the essence of PCBH model components. Key areas for improvement included concerns about unclear item wording, technical glitches that impeded ease of use, and that the toolkit lacked highly tailored educational resources specific to PCBH providers. Participants also noted several contextual factors that impacted toolkit utility, such as system-level barriers to high fidelity practice and limited acceptance of the PCBH model itself.

Stakeholder feedback is critical to uptake and wide-scale use of the PPAQ toolkit. We discuss how providers' feedback informs the refinement of the PPAQ toolkit for use as a quality improvement and training tool.

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A109

6:00 PM-7:00 PM

PROVIDING INTEGRATED PRIMARY CARE BEHAVIORAL HEALTH IN A COMBAT ENVIRONMENT: CHALLENGES AND OPPORTUNITIES

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Over 2 million U.S. troops have deployed in support of several military operations over the past 15 years in Iraq and Afghanistan and providing health care for returning veterans has been highlighted as a critical national policy issue, as well as an ethical and social responsibility. Perhaps as important is an understanding of the delivery of care in the combat environment and the unique challenges posed, as well as the opportunities for early intervention and prevention. For nearly two decades, the United States Air Force has established a model of integrated primary care behavioral health utilized across the United States and in established non-combat military treatment facilities across the world. This program has demonstrated significant benefit to both patients and healthcare providers. As U.S. troop involvement in contingency operations slows, fewer behavioral health specialty clinics exist in combat environments and behavioral health providers are often co-located with primary care and other medical services. This provides an opportunity to evaluate the translation of this integrated primary care model in a unique service setting. Data was collected from 71 individuals who sought behavioral health care in an integrated primary care clinic while deployed in support of Operations Enduring Freedom and Freedom's Sentinel in Afghanistan. Results indicate no significant difference between patient satisfaction in this deployed setting as compared to satisfaction in stateside military treatment facilities. However, several significant differences emerge when examining certain factors of patient health and perceptions of care (e.g., satisfaction with the treatment plan, ratings of general health and total number of integrated behavioral health appointments, all p 's $< .01$). Implications for future delivery of integrated primary care behavioral health services in deployed and other remote environments will be discussed.

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A110

6:00 PM-7:00 PM

SCALING HOME-BASED PRIMARY CARE TO MEET THE NEEDS OF FRAIL ELDERLY WITH MULTIPLE CHRONIC CONDITIONS

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Today, there are more than four million homebound frail seniors with multiple chronic conditions, behavioral health conditions and functional disabilities. Home-based primary care (HBPC) is a multidisciplinary ongoing care strategy for providing treatment primarily in the patient's home, which can result in better quality of care at a lower cost for the medically-complex homebound elderly. Currently only 15% of homebound seniors are able to access these critical services due to multiple barriers that prevent the programs' scalability and sustainability. As a result, the majority of the homebound elderly resort to ED and expensive hospitalizations when they experience exacerbations of their chronic conditions.

Beginning in March of 2015, a clinical practice quality improvement project (QIP) was conducted at a mid-Atlantic HBPC practice to determine potential efficiency solutions to help scale their practice. The first phase was data collection on PCPs' patient visit workflows. GPS software on mobile tablets tracked patient visits of 5 nurse practitioners and 1 physician over 26 days and brief surveys were completed daily. A total of 599 visits occurred with providers completing an average of 6 (sd 1.9) visits/day (range 2-8). Most visits (83%) lasted 30 to 45 minutes. Of the total visits, 21% were urgent and 8.7% were hospital follow-up visits. NPs spent significant time daily on charting (m = 126 min, sd = 67) and patient care coordination (m = 112 min, sd = 79). There was significant variation among NPs in the time spent charting (range 68 to 198 min/day, $p < .01$) and in care coordination (range 37 to 208 min/day, $p < .01$).

In fee-for-service reimbursement, it is difficult for HBPC practices to recover costs, which prohibits scaling practices to provide this needed service to a wider proportion of the frail elderly population. Creating efficiencies to increase the volume of patients through changes in scheduling visits, and delegating tasks such as charting and care coordination to medical assistants could help address barriers to scaling HBPC.

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A111

6:00 PM-7:00 PM

WHAT IMPACTS THE DELIVERY OF EVIDENCE-BASED PREVENTIVE CARE? AN EXPLORATION OF BARRIERS AND FACILITATORS

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Background: Primary care is principally responsible for ensuring that patients receive beneficial preventive care. Yet patients only receive half of recommended services. Purpose: This is a mixed-methods study that explores the health system, practice, provider, and patient facilitators and barriers to the delivery of nearly two dozen USPSTF recommendations. Methods: Data from electronic medical records was used to calculate the percent of eligible patients who are up-to-date with indicated preventive services in 23 primary care practices across the United States (i.e., cancer screenings, immunizations, and chronic illness). Practices included community health centers, academic medical centers, and private practices from 6 health systems. A generalized linear mixed model framework was used to simultaneously analyze the effects of the health system, practice, provider, and patient as they relate to preventive service delivery. In addition, representatives from each practice were interviewed about factors they perceived as having an impact on services with the highest and lowest delivery rates. Results: Using breast cancer screening rates as an example, this study found that screening rates range between 17 and 75% and the multi-level model suggests that, controlling for all patient characteristics, there is significant variation in screening rates between practices and between providers. Facilitators identified through interviews included having electronic health record alerts, having a local provider champion, and using team based care. Barriers included lack of resources, inconsistent insurance coverage, and fragmented service delivery in multiple sites. Conclusions: There is a complex interaction between health systems, practices, providers, patients, and additional stakeholders that influence the delivery of recommended preventive services. Effective interventions to improve preventive care will need to address factors at multiple levels.

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A112

6:00 PM-7:00 PM

INTEGRATION OF SLEEP PROMOTION INTO FAMILY-BASED INTERVENTIONS TO PREVENT CHILDHOOD OBESITY: A SYSTEMATIC REVIEW

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INTRODUCTION: Previous longitudinal studies and systematic reviews have shown an association between insufficient sleep duration and childhood obesity. The goal of this systematic review was to examine the inclusion of sleep promotion in family-based interventions to prevent childhood obesity from 2008 to 2015. **METHODS:** PubMed, PsycINFO and CINAHL databases were searched for original research articles on family-based childhood obesity interventions published between January 2008 and July 2015. Articles were screened using PRISMA guidelines and included if they (1) focused on obesity prevention, (2) included child weight as an outcome, (3) had "active" family involvement, and (4) targeted sleep in the intervention. A total of 8252 articles were identified and 19 articles met inclusion criteria. **RESULTS:** All but 1 study were published between 2011-2015 in the United States (n=11) and Nordic countries (n=7). The majority of articles (n=14) were intervention protocols. Almost all articles (n=17) recruited children under 5 years of age, of which 7 recruited infants ages 0-1. Only 8 articles explicitly identified sleep as one of the target behaviors of the intervention. All but 1 study recruited parents and 6 recruited exclusively mothers. Sleep was measured in children using actigraphy (n=3) and parent-report (n=10) and the most common sleep outcome variable was sleep duration (n=7). Ten articles did not cite a validated sleep measure and 8 articles did not specify a sleep outcome variable. Sleep-parenting (eg. bedtime routines) was targeted in 10 articles. Three out of 5 outcome evaluations found significant intervention effects for sleep duration (n=2) and bedtime resistance (n=1) and 2 articles found significant effects for child BMI. **CONCLUSION:** Sleep promotion is being increasingly integrated into family-based interventions to prevent obesity in young children, but is seldom a prime intervention target. Articles mainly recruit mothers and rely on self-report. Early findings are promising, but remain mixed. Pending results from several large-scale articles may elicit greater integration of sleep into family-based interventions to prevent childhood obesity.

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A113

6:00 PM-7:00 PM

IS NEUROTICISM KEEPING YOU UP AT NIGHT?

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Background: Disordered sleep is a national health issue affecting an estimated 50-70 million US adults with documented consequences impairing daily function, increasing risk for chronic health conditions, and raising morbidity. In effort to abate the deleterious consequences and better understand the development and maintenance of disordered sleep, researchers have attempted to study the influence of personality traits and emotions in relation to sleep and sleep-related behaviors—namely neuroticism. Individuals high in neuroticism report more problems with sleep hygiene, sleep quality, and sleepiness; other studies have cited personality features such as high levels of emotion dysregulation, particularly negative affect, as possible precipitants of overall poor sleep quality and disordered sleep. The purpose of the present study was to explore the relationships among disordered sleep (insomnia), personality, and affect. **Methods:** Insomnia symptom severity (Insomnia Severity Index), personality and trait level behaviors (BIS/BAS Scales; Mini IPIP), and affect (PANAS) were measured among a sample of 75 university undergraduate students (Age: 18-39, M=20.15, SD=3.01; 67% Female) across several semesters. **Results:** Multiple linear regression analysis was used to develop a model for predicting participants sleep quality from brief measures of personality traits and affect. Each predictor variable had a significant zero-order correlation with reported sleep quality. A three predictor model was able to account for 25% of the variance in self-reported sleep quality, $F(2, 72) = 7.73, p = .0002, R^2 = .246$. However, a simple linear regression might better explain a significant amount of the variance in self-reported insomnia symptoms, $F(1, 74) = 22.22, p < .0001, R^2 = .233$. It was found that neuroticism significantly predicted insomnia symptom severity, $\beta = 0.086, 95\% \text{ CI } [0.05, 0.12]$. **Conclusions:** Results suggest personality and affect may play a significant role in the perpetuation of insomnia symptoms and disordered sleep. Neuroticism, as previously identified in the literature, may be especially important compared to other affect-related components of personality with regard to overall sleep health/dysfunction.

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A114

6:00 PM-7:00 PM

LATENT PROFILE ANALYSIS OF SLEEP, PHYSICAL ACTIVITY, AND SEDENTARY TIME AND ASSOCIATIONS WITH HEALTH

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Physical activity, sedentary behavior, and sleep have been identified as major modifiable risk factors for numerous chronic diseases. Previous studies have typically measured associations between self-reported measures of these behaviors and predictors of health outcomes. Little research has been done to objectively measure these behaviors and explore how they cluster in individuals. **Purpose:** To identify latent profiles of objectively measured total sleep time, sleep efficiency, physical activity, and sedentary time in a sample of diverse U.S. women. **Methods:** 373 women (mean age 55.31 ± 10.17) were recruited from studies conducted across four university sites in the US. Participants wore an ActiGraph GT3X+ accelerometer on the hip and wrist for 7 days and 7 nights. Total minutes in moderate-to-vigorous PA (MVPA) per day and percentage of wear-time spent sedentary was computed from the hip device. Total sleep time and sleep efficiency were computed from the wrist device. Latent profile analyses were performed using the four variables of interest, and adjusted ANOVAs were conducted to compare behaviors, demographics, and health conditions across profiles. **Results:** Moderate-to-vigorous physical activity, percent sedentary, total sleep time, and sleep efficiency clustered to form 5 distinct profiles. Sleep was comparable across 4 of 5 profiles (n=345, 92.5%). The profile with the poorest sleep had a lower proportion of whites (35% vs 78-91%, $p < .001$) and non college graduates than the other profiles (28% vs 68-90%, $p = .004$). The largest profile (n=151, 40.6%) engaged in only 7min of MVPA per day. BMI and physical functioning varied slightly among profiles. Other health variables did not vary statistically between profiles, but trended in hypothesized directions. **Conclusion:** These behaviors do cluster to form distinct profiles, which can inform targeting of multiple health behavior interventions. Interventions should target the profiles with the lowest physical activity and/or poorest sleep quality, which are more prevalent in underserved populations.

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A115

6:00 PM-7:00 PM

LATER BEDTIMES ASSOCIATED WITH COMPROMISED EXECUTIVE FUNCTIONS

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Introduction A strong body of research has shown links between insufficient sleep in childhood and poor cognitive performance (Durner & Dinges, 2005; Sadeh, Gruber, & Raviv, 2003), including executive functions (EFs) (Anderson et al., 2010; Turnbull, Reid, & Morton, 2013). During adolescence, youth often experience a change in their sleep schedule, evidenced by later bedtimes (Carskadon, 1990). However, few studies have examined impact of later bedtimes on EFs. The current study examines the unique influences of both bedtime and sleep duration on EFs in a sample of urban minority adolescents. It is hypothesized that later bedtimes will be associated with more EF difficulties above and beyond the influence of sleep duration. **Method** Participants (n=66) were 10-14-year-old low-income urban girls. Almost all participants identified as African-American (n=38) or Latina/Hispanic (n=22). Sleep was measured using an Actigraph GT3X Tri-Axis Accelerometer (Pensacola, FL) at the waist, and variables were derived using a validated algorithm to measure child sleep from waist-worn accelerometers (Barreira et al., 2015; Tudor-Locke et al., 2013). Self-reported EF problems were assessed through the Behavior Rating Inventory of Executive Function, Self-Report (BRIEF-SR; Guy, Isquith, & Gioia, 2004), yielding subscales of executive control, working memory, inhibition, and shifting problems. Results Correlational analyses revealed that sleep duration and bedtime were negatively associated ($r = .47, p < .001$), such that later bedtimes were related to shorter sleep durations. Bedtime was positively correlated with working memory problems ($r = .31, p = .02$) and inhibition problems ($r = .37, p < .01$), such that later bedtimes were associated with more daily difficulties with working memory and inhibition. Multiple regression analyses revealed that later bedtimes predicted EF problems above and beyond sleep duration, for both working memory ($B = .00, \text{Beta} = .41, p = .02$) and inhibition ($B = .00, \text{Beta} = .39, p = .02$). Analyses suggest that later bedtimes may serve as a risk factor for EF difficulties during adolescence.

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A116

6:00 PM-7:00 PM

PAUSE, BREATHE, AND SLEEP WELL: PROMOTING GOOD SLEEP THROUGH A MINDFULNESS-BASED PROGRAM IN FIRST-YEAR COLLEGE STUDENTS

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College students are susceptible to a myriad of sleep disturbances which can have negative consequences on their health and wellbeing. Obtaining adequate and good quality sleep however, can play an essential role in promoting academic potential, positive health behaviors, and overall wellbeing. Mindfulness-based interventions have recently gained attention as a promising behavioral intervention targeting a wide array of health outcomes, including the promotion of good sleep. The objective of this study was to determine the immediate and long-term effects of an eight-session college-adapted mindfulness program (Learning to Breathe) on sleep-related outcomes, satisfaction with life, and mindfulness in first-year students making the transition to college. A randomized waitlist controlled trial was conducted during the fall 2014 - spring 2015 academic year. Participants ($N=109$; $M\text{ age}=18.2$, $SD=4$ years) were randomized to the mindfulness program or to a wait-list control group. Repeated measures ANOVAs were used to examine differences in sleep assessed using the Pittsburgh Sleep Quality Index (PSQI) across the two groups at baseline (pre), post, and at three month follow-up. A significant time by intervention effect emerged for the total PSQI score; $F(2,154)=3.97, p < .05$, and for the day dysfunction due to sleepiness subscale; $F(2, 158)=3.93, p < .05$ such that students participating in the mindfulness-based program demonstrated progressive linear improvements in sleep over time. In parallel with the overall enhancements in sleep which remained at three-month follow-up, satisfaction with life and mindfulness also demonstrated a time by intervention effect; $F(2,154)=5.43, p < .05$, $F(2, 152)=4.82, p < .05$, respectively, suggesting links among the constructs of mindfulness, satisfaction with life, and sleep. Mindfulness-based programs may have potential enduring effects to enhance sleep, daily functioning, and wellbeing of first-year college students.

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A117

6:00 PM-7:00 PM

PERCEIVED STRESS AS A MEDIATOR BETWEEN SOCIAL CONSTRAINTS AND SLEEP QUALITY AMONG CHINESE AMERICAN BREAST CANCER SURVIVORS

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Poor sleep quality often has a negative effect on quality of life among cancer survivors. However, sleep quality and how social interaction influences sleep is often overlooked. Social constraints is defined as negative social interactions and linked to poor quality of life. This study examined the association between social constraint and sleep among Chinese American BCS, and proposed perceived stress as a mediator explaining the association. Chinese American breast cancer survivors (n=94, mean age = 54.4) were recruited from Southern California. Participants' social constraints, perceived stress, and sleep quality (indicated by the Pittsburgh Sleep Quality Index) were measured in a questionnaire package. Social constraints were associated with higher perceived stress ($r = 0.32, p = .002$) and poorer sleep quality (i.e., higher PSQI score) ($r = 0.35, p = 0.47, p(23) = 22.357$, CFI = 1.000, TLI = 1.002, RMSEA = 0.000). The indirect effect from social constraints to poorer sleep quality via perceived stress ($\beta = .197, p = .001$; 95% CI = .070, .403) was greater than zero in the 95% confidence intervals. The path coefficient for direct effect from social constraints and poorer sleep quality dropped significantly from $\beta = .33, p = .006$ (95% CI = .105, .521) to $\beta = .13, p = .290$ (95% CI = -.129, .367) after considering the mediator, suggesting a full mediation effect of perceived stress between social constraints and sleep quality. Our findings indicated that social constraints reduced sleep quality among Chinese American BCS via the increase in perceived stress. Interventions to reduce Chinese American breast cancer survivors' social constraints and perceived stress may facilitate improvement in their sleep quality, which in turn promotes better quality of life.

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A118

6:00 PM-7:00 PM

RELATIONSHIP BETWEEN SLEEP BEHAVIOR AND PLACE OF BIRTH: AN ANALYSIS OF THE 2010-2013 NATIONAL HEALTH INTERVIEW SURVEY (NHIS)

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Background: Associations between place of birth and various health outcomes have been explored in recent research. However, few studies have examined the relationship between place of birth and sleep duration, although sleep duration has been related to a number of negative health outcomes. **Methods:** We examined data for 416,152 adult participants in the 2000-2013 National Health Interview Survey (NHIS), who provided self-reported hours of sleep and place of birth. Associations were explored between healthy sleep duration (7-8hrs.), referenced to unhealthy sleep duration (8 hrs.) and country of origin among US adults. In all analyses, socio-demographic factors, health risk behavior, and existing medical conditions were adjusted. **Results:** The mean age of volunteers in the sample, was 47.4 ± 0.03 years; 56% were female. Of the respondents, 61.5% reported healthy sleep and 81.5% reported being born in the United States. Descriptive statistics revealed that respondents born in the Indian subcontinent- were more likely to report healthy sleep compared to US-born respondents (OR=1.53, 95% CI: 1.37-1.71, $p < 0.001$), and African-born respondents were less likely to report healthy sleep duration (OR= 0.78, 95% CI: 0.70-0.87, $p < 0.001$). **Conclusion:** These findings suggest that place of birth should be considered in the assessment of risk factors for unhealthy sleep. Future studies should address how cultural aspects of sleep and sleep behavior might explain these findings. Understanding determinants of poor sleep and related adverse effects on other health problems, such as cardiovascular disease, may be important when planning public health interventions.

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A119

6:00 PM-7:00 PM

SCHOOL START TIMES, SLEEP, AND ACADEMIC ACHIEVEMENT: AN EXAMINATION OF PUBLIC SCHOOLS IN HAWAII

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Early school start times constrain child and adolescent sleep-wake schedules. An early morning school start time can result in a student waking prematurely, reducing optimal sleep time (Keller et al., 2013; Wolfson & Carskadon, 1998). Adequate sleep is essential for child and adolescent learning. Achieving specific stages of sleep is critical in consolidating learning and promoting vigilance during school hours (Llewellyn & Hobson, 2015). School systems may be inadvertently compromising students' ability to learn by reducing sleep time by having early morning start times. There is sufficient evidence that students, particularly adolescents, would benefit from delaying school start times (Kirby, Maggi, & D'Angiulli, 2011). Over 70 public school districts in the US (approximately 1,000 schools) have successfully implemented a delay in high school start times (Owens, et al., 2014).

In the current study, an analysis of start times for all public schools in the State of Hawaii (N = 255 schools; 32,622 students) was conducted to determine if later start times were associated with greater academic proficiency. Correlation analysis indicates that for children in grades K-6, later start times, typically around 8:00 a.m., were significantly correlated with higher National Assessment of Educational Progress (NAEP) scores for Math, $r = .15$, p (one-tailed) $< .05$, Reading Proficiency, $r = .12$, p (one-tailed) $< .05$, and Science, $r = .26$, p (one-tailed) $< .01$. No significant associations were found for middle or high school start times and academic proficiency, although a positive trend was noted between start time and math proficiency for high school students.

These results run counter to previous studies that found that teenage students were more compromised than younger students by an early school start time (Wolfson & Carskadon, 1998). Failure to reach significance for teenage students may reflect the smaller sample size of middle and high schools and a more limited range of start times. It appears that delaying start times may promote better sleep and academic proficiency at least for younger Hawaii students.

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A120

6:00 PM-7:00 PM

SLEEP DISORDERS AND WEIGHT STATUS IN PRIMARY CARE

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Introduction: Data supports a bi-directional relationship between obesity and sleep disturbances, such as sleep apnea, insomnia, and short sleep duration. Scant data exist on the comorbidity of obesity and sleep disturbances in adults not selected for either condition. This pilot study obtained data on obesity, sleep apnea and insomnia severity in Bronx, NY primary care patients. **Method:** English or Spanish-speaking adults were recruited from two federally qualified primary care clinic waiting areas. After consent, participants completed a demographic questionnaire and the Insomnia Severity Index (ISI) and Berlin Sleep Apnea Questionnaire (Berlin) screeners. Height and weight were obtained from medical records in order to compute BMI. Obesity is defined as BMI ≥ 30.0 . Chi square and independent samples t -test were used to analyze relationships between obesity and sleep. **Results:** Participants (N=95) were predominantly women (77%) with a mean age of 44.7 (SD=18.8) who reported sleeping an average of 6.2 hours per night. 51% of participants met criteria for obesity (mean BMI = 31.8). On the ISI, 31% of the sample endorsed clinical insomnia. On the Berlin, 42% of participants screened as high risk for sleep apnea. Chi square analyses revealed that those with obesity were 3.31 times more likely to meet the Berlin screening criteria for sleep apnea compared to those without obesity [$\chi^2(1) = 6.54$, $p = .01$]. BMI was higher among persons reporting problems with snoring compared to non-snorers (Mean BMI=34.2 vs. 30.1, $p < .05$), and persons classified as obese slept fewer hours per night than non-obese individuals (Mean hours= 5.8 vs. 6.6, $p < .05$). There was no association between weight status and insomnia severity. **Conclusion:** Results are consistent with prior research indicating a significant relationship between obesity and risk for sleep apnea. In this sample, while participants with obesity were not more likely to endorse clinically significant insomnia, they did report sleeping less hours per night compared to individuals without obesity. These results warrant further research to more fully explore the relationship between weight status and sleep duration and quality.

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A121

6:00 PM-7:00 PM

SOCIAL MEDIA USE AND SLEEP DISTURBANCE AMONG YOUNG ADULTS

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Introduction. Although sleep is essential to promoting health, 67% of young adults report not getting enough sleep to function properly. Many factors contribute to sleep disturbance among young adults. However, social media (SM) use is increasing rapidly, and little is known regarding the association between use of SM and sleep disturbance. **Methods.** We assessed a nationally-representative sample of 1788 U.S. young adults ages 19-32. SM volume and frequency were assessed by self-reported time per day spent on SM (volume) and visits per week (frequency) using items from the Pew Internet Research Questionnaire. Individual items specifically addressed use of Facebook, YouTube, Twitter, Google Plus, Instagram, Snapchat, Reddit, Tumblr, Pinterest, Vine, and LinkedIn. We assessed sleep disturbance using the brief 4-item Patient Reported Outcomes Measurement Information System (PROMIS) Sleep Disturbance measure, which was collapsed into tertiles for analysis. We performed chi-square tests and ordered logistic regression using sample weights in order to estimate associations between SM use and sleep disturbance for the total U.S. population. **Results.** In models that adjusted for all sociodemographic covariates, participants with higher SM volume and frequency had significantly greater odds of having sleep disturbance. For example, compared with those in the lowest quartile for volume of time spent using SM, those in the highest quartile had an AOR of 1.95 (95% CI = 1.37 – 2.79) for sleep disturbance. Similarly, compared with those in the lowest quartile of SM frequency, those in the highest quartile had an AOR of 2.92 (95% CI = 1.97 – 4.32) for sleep disturbance. Associations all demonstrated a significant dose-response trend. **Conclusions.** The strong association between SM use and sleep disturbance has important implications for the health and well-being of young adults. Future work should aim to assess directionality and to better understand the influence of contextual factors associated with SM use. Qualitative work may be especially valuable.

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A122

6:00 PM-7:00 PM

STRESS AND ANXIETY MEDIATE THE ASSOCIATIONS BETWEEN INSOMNIA AND TRIGLYCERIDE IN YOUNG ADULTS

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Background: Adjustments during the transition to adulthood can potentially lead to sleeping and psychological problems that affect health. However, pathways between emotional health, sleep, and metabolic health were poorly understood. **Objective:** To examine the associations between sleep behavior, psychosocial factors (stress, depression, and anxiety), and obesity-related biomarkers. **Methods:** The study sample consisted of 131 college students (78% girls, mean age =21.2). Measures included sleep estimates by accelerometry and questionnaires, body composition by Bioelectrical impedance analysis, and fasting glucose and lipids obtained by blood draw. Covariates include age, gender, SES, and body composition. **Results:** Compared to poor sleepers, good sleepers had a higher level of serum cortisol ($p=0.04$), depression ($p=0.006$), and stress ($p=0.001$). Individuals with higher level of daytime sleepiness ($p=0.04$), greater sleep efficiency ($p=0.001$), and fewer nighttime awakenings ($p=0.03$) have a higher level of adiponectin. Sleep quality was inversely correlated with high density cholesterol ($r=-0.21$, $p=0.03$); insomnia was positively correlated with triglyceride ($r=0.21$, $p=0.02$). Longer sleep duration was related to a higher level of leptin ($p=0.01$). Insomnia was related to a higher level of stress ($p=0.01$), anxiety ($p=0.001$), and depression ($p=0.001$). Eveningness circadian rhythms was related to greater stress ($p=0.03$) and total cholesterol ($p=0.02$). Stress and anxiety had mediation effects on associations between insomnia and triglyceride. **Conclusions:** Stress and anxiety needs to be considered for the pathways linking sleep to metabolic health. Research that uses longitudinal methodology are needed to confirm the mediation effects of psychosocial factors on the associations between sleep and biological health outcomes.

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A123

6:00 PM-7:00 PM

A QUALITATIVE EXPLORATION OF ALCOHOL DEPENDENCE AND THE CHANGING FACES OF SOCIAL SUPPORT DURING TREATMENT AND RECOVERY

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Among individuals who are alcohol-dependent, social support (SS) can influence patterns of drinking, sobriety, and relapse. Those suffering from alcohol dependence are likely to have smaller and less diverse social networks. The purpose of this analysis is to explore the changing source/type of SS among individuals who are alcohol-dependent as they transition from an inpatient treatment environment back to the community.

Semi-structured interviews were conducted with clinical research participants enrolled on an inpatient alcohol treatment study ($n=33$) prior to discharge and during a follow-up visit 4-6 weeks after discharge. The sample was 67% male, 45% Black, with an average age of 44.4 years ($SD \pm 10.4$). An initial analysis identified themes exemplifying SS, the post-discharge environment, and perceived barriers/facilitators to sobriety. Utilizing established definitions of SS, a sub-analysis of these primary themes uncovered both sources and types of SS as well as elements of the post-discharge environment that influenced changes in an individual's social network.

During inpatient interviews, the most commonly-reported *type* of support was “instrumental” provided by health professionals (*source*). During outpatient interviews, participants mentioned “emotional” as the most common *type* of support and Alcoholics Anonymous (AA) meetings as the most common *source* of support. Over 1/3 of participants described a lack of support in some aspect of their life and/or intent to seek out new social networks, such as the AA community, family or friends that would facilitate sobriety rather than become barriers to recovery.

In the words of one participant describing his transition, “My immediate family – they all drink...that’s who I was...drinking with before I came here...got to stay away and get myself together before I go back around that way.” Elucidating sources and types of SS may provide information on individualized needs for building SS networks to facilitate smoother transitions and reduce the risk of relapse.

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A124

6:00 PM-7:00 PM

ACUTE EFFECTS OF RESISTANCE EXERCISE ON AFFECT, AROUSAL, AND CRAVINGS IN TEMPORARILY ABSTINENT YOUNG ADULT HEAVY DRINKERS

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Background: Young adults frequently engage in hazardous alcohol consumption, and many meet the diagnostic criteria for an alcohol use disorder. The desire or craving to drink is a defining symptom of alcohol dependence, and it is closely tied to and exacerbated by negative affect. Practical interventions designed to improve affect and reduce cravings may therefore provide this population with an alternative behavior to drinking. Previous research has shown a reduction in cravings after a short bout of aerobic exercise, but no study has investigated the effects of resistance exercise on affect and cravings for alcohol.

Purpose: This study tested the effect of a single bout of bodyweight resistance exercise on affective valence, arousal, and cravings for alcohol in a community sample of temporarily abstinent young adult heavy drinkers. **Methods:** Using a within subjects design, 14 participants ages 23-40 with an Alcohol Use Disorders Identification Test (AUDIT) score ≥ 20 abstained from consuming alcohol for 18 hours prior to completing two counter-balanced sessions separated by one week: (1) a 20-minute bout of bodyweight resistance exercise; and (2) a 20-minute educational video control. Abstinence from alcohol was confirmed by breathalyzer. Affect, arousal, and cravings were measured at PRE (minute 0), immediate POST (minute 20), and after a 10-minute DELAY (minute 30) with the Feeling Scale, Felt Arousal Scale, and Alcohol Urge Questionnaire respectively. Data were analyzed using a series of mixed effects regression models, with data clustered within participant. **Results:** When comparing resistance exercise to the control, there were greater increases in affect from PRE to DELAY ($t=2.07$, $p=.04$). Arousal also increased significantly more with resistance exercise from PRE to POST ($t=4.09$, $p < .01$) and decreased less from POST to DELAY ($t=2.05$, $p=.04$). In addition, there were greater reductions in cravings from PRE to POST ($t=2.04$, $p=.04$), after adjusting for the session order. **Conclusion:** This is the first study to show that a brief bout of resistance exercise can improve affect, increase arousal, and reduce cravings for alcohol in temporarily abstinent young adult heavy drinkers.

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A125

6:00 PM-7:00 PM

ALCOHOL BRANDS REPRESENTED ON YOUTUBE

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Background. Alcohol remains a leading cause of morbidity and mortality among U.S. youth. We aimed to characterize the content of leading YouTube videos related to the top alcohol brands preferred by youth. **Methods.** We systematically captured the 163 most relevant and popular videos on YouTube related to the top 8 brands of alcohol preferred by youth (Bud Light, Coors Light, Smirnoff, Mike's Hard Lemonade, Patron, Hennessy, Grey Goose, and Jack Daniel's). We used an iterative process to codebook development that resulted in 40 codes in 6 categories: video characteristics, character demographics, alcohol depiction, degree of alcohol use, characteristics associated with alcohol, and consequences of alcohol. **Results.** There were a total of 112,288,580 views for all videos combined. Videos represented three major categories: advertisements, music videos, and homemade videos. While most advertisements were clearly advertisements reposted from television, other videos were unclear. For example, one video with over 12 million views featured a dog smiling responsively during guitar riffs and frowning when they stopped. While the video appeared to be sloppily made by an aspiring musician, several posted comments suggested it was a viral marketing campaign for Bud Light, of which a bottle is prominently displayed in the front of the video frame. Distinctive patterns emerged regarding representation of different brands. For example, 93% of Bud Light videos were advertisements, whereas 67% of Patron videos were official music videos and the other 33% were homemade videos of people chugging full bottles of Patron. Humor was featured in 89% of Bud Light videos and 80% of Coors light videos but only 15% of Jack Daniel's videos and 14% of Patron videos. However, juxtaposition of alcohol and use of a vehicle was seen in 57% of Patron videos but 0% of Bud Light videos. **Conclusions.** Internet videos depicting top alcohol brands are heavily viewed. Different brands are portrayed in characteristic ways consistent with the brands' marketing strategy. It is sometimes difficult to discern whether posted YouTube videos are sanctioned and/or supported by the alcohol industry.

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A126

6:00 PM-7:00 PM

ANXIETY, DEPRESSION, AND CATASTROPHIZING INFLUENCE PAIN TOLERANCE IN THE COMORBID OPIOID ADDICTED AND PAIN (COAP) POPULATION

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Introduction: Depression, anxiety and catastrophizing influence the experience of pain. However, there is a lack of empirical data about how pain, particularly in the context of these factors, manifests in those with comorbid opioid addiction and chronic pain (COAP). This study investigates the impact of these variables on pain tolerance in the COAP population. **Method:** Individuals with chronic pain and a history of opioid maintenance (N=90) completed self-report surveys for anxiety and depression (HADS) and pain catastrophizing (PCS). Participants then completed a cold water pain task in which they immersed one hand in 2°C water up to the wrist. Pain tolerance was the observed duration that participants remained in contact with the water. **Results:** Pain tolerance is inversely correlated with anxiety scores ($R = -0.35$; $p < 0.01$) and catastrophizing ($R = -0.27$; $p < 0.01$), but positively correlated with depression scores ($R = 0.19$; $p < 0.05$). A backward entry linear regression analysis indicated that gender, anxiety, and catastrophizing were significant predictors of pain tolerance. The regression model predicted 14.9% of the variance in pain tolerance. **Conclusion:** Anxiety and catastrophizing are linked with less pain tolerance in the COAP population. Decreasing these factors may be a focus of future treatment, with the aim of improving pain tolerance and thereby promoting long-term abstinence in those with COAP. The positive correlation between depression and pain tolerance can be explained by amotivation to improve painful situations. Additional research is needed to understand the role of mental health on various aspects of the pain experience in the COAP population.

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A127

6:00 PM-7:00 PM

CHALLENGES TO PRACTICING HIV SEX-RISK PREVENTION AMONG PEOPLE IN CONTINUING CARE FOR COCAINE ADDICTION

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Background: While the interconnection between drug use and HIV sex-risk behavior is well established, incorporation of HIV sex-risk prevention into substance use interventions is limited. **Objective:** The goal of the present study is to provide an in-depth account of challenges to minimizing HIV sex-risk among participants in continuing care for cocaine addiction, in order to better inform substance use programming. **Methods:** Forty-two recorded counseling sessions among people who discussed HIV sex-risk behavior while in continuing care for cocaine addiction were analyzed using NVivo software. Data analysis was guided by the phenomenological method to understand challenges and supports for engaging in HIV sex-risk prevention and the varying contexts in which challenges and supports arise. **Results:** In the counseling sessions participants expressed the desire for serious and committed relationships; however, relationships of a casual nature that often involved HIV sex-risk behavior were more prevalent. Challenges to having a serious committed relationship included 1.) recovery involvement, which deterred clients from engaging in intimate relationships early in recovery, 2.) the ubiquity of drug use and sex work in home environments with limited economic opportunity. Despite these challenges, some participants reported having successful intimate relationships that supported their recovery. **Conclusions & Implications:** Substance Use interventions may want to consider providing a more nuanced message regarding relationships in recovery that does not deter healthy intimate relationships that support recovery. Further, the strong environmental influence on individual HIV sex-risk behavior should be considered in delivering any substance use intervention.

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A128

6:00 PM-7:00 PM

CREATING A STANDARD OF CARE FOR TRAUMA ALCOHOL CONSULTATIONS COMPLETED BY BEHAVIORAL MEDICINE TEAMS

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The American College of Surgeons and Committee on Trauma require patients admitted to a trauma service with elevated Blood Alcohol Concentration (BAC) be seen for brief alcohol screen and intervention. Research indicates there is no consistent standard of care across hospitals. At Cooper University Hospital (CUH), a Level 1 Trauma Center, the Behavioral Medicine Consultation-Liaison (CL) service has completed screens and interventions since 2014.

A protocol at CUH was created based upon Screening, Brief Intervention, and Referral of Treatment (SBIRT). The SBIRT, put forth by the ACOS, provides the only recommendations for carrying out screening and intervention. At CUH, the Alcohol Use Disorders Identification Test (AUDIT) is used to assess alcohol use/abuse. Psychosocial stressors, acute trauma symptoms, and stage of change are also assessed. Intervention focuses on psychoeducation on the effects of alcohol use, and includes brief Motivational Interviewing to determine need and desire for behavior change. Treatment resources are provided to interested patients. The AUDIT is repeated post-discharge. This internal review aims to provide retrospective rationale for effectiveness of the standard of care at CUH, which can be a model for implementation at other hospitals.

Trauma patients ($n = 164$, 27.4% male, 59.8% White, Mean Age=47) were identified by trauma teams, with elevated BAC (Mean BAC=155.35), and were referred to CL service as part of standard of care. 161 patients completed the intervention; 14 patients followed-up post discharge; 27.4% did not return messages, 9.8% phones disconnected, 6.1% had no follow up information, 1.2% died, .6% were in assisted living or incarcerated. Paired T-test analyses indicated those who completed our SBIRT significantly reduced alcohol consumption post- intervention ($t(13) = 2.2, p = .04$). Only 3 patients were hospitalized since intervention, none were alcohol-related.

Results provide sufficient rationale to continue the CUH-developed standard of care, to consider it for implementation at other hospitals, and indicate positive reduction in alcohol symptoms. This may reduce future hospitalization due to alcohol use/abuse. Future research should monitor rate changes with a larger sample and include evaluation of re-hospitalization of patients with alcohol-related injuries.

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A129

6:00 PM-7:00 PM

ETHNIC DISPARITIES IN ALCOHOL CONSUMPTION RATES AMONG ADULTS IN HAWAII: ETHNICITY AS A PROTECTIVE FACTOR

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PURPOSE: To assess ethnic disparities in alcohol use and abuse prevalence among adults aged 18 years and older in Hawaii. **METHODS:** Adult alcohol consumption rates in Hawaii for 2013, specifically current 30-day alcohol use and current 30-day binge drinking rates (males having five or more drinks on one occasion and females having four or more drinks on one occasion in the past 30 days) provided by the Behavioral Risk Factor Surveillance System, were examined to identify the differences between the top five ethnic groups (Caucasian, Native Hawaiian, Chinese, Filipino, and Japanese). **RESULTS:** The current 30-day alcohol use rates in 2013 showed those of Asian descent having the lowest rates (Chinese 35.4% [95% CI = 29.3 – 41.6], Filipino 43.5% [95% CI = 38.4 – 49.6], and Japanese 42.3% [95% CI = 38.8 – 45.7]) compared to Caucasians (63.2% [95% CI = 60.5 – 65.9]) and Native Hawaiians (49.4% [95% CI = 44.4 – 54.4]). The current 30-day binge drinking rates in 2013 followed a similar trend. Asian ethnic groups had the lowest rates compared to Caucasians and Native Hawaiians (Chinese 12.9% [95% CI = 8.6 – 17.2], Filipino 14.6% [95% CI = 11.3 – 17.9], and Japanese 14.3% [95% CI = 11.8 – 16.8], versus Caucasians 19.3% [95% CI = 17.7 – 21.4] and Native Hawaiians 28.8% [95% CI = 24 – 33.6]). **CONCLUSION:** There are ethnic disparities of alcohol use among adults in the state of Hawaii. The data suggest that having an Asian ethnic background may serve as a protective factor for alcohol use and abuse. This may be due to cultural influences and/or biological predispositions. Further research should examine how cultural difference, social norms and values of these ethnicities may affect the use and abuse of alcohol. Implications are to find better strategies for effective prevention within these ethnic groups as well as other groups by understanding possible cultural factors.

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A130

6:00 PM-7:00 PM

EXAMINATION OF THE GATEWAY HYPOTHESIS IN RATS

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Kandel (1977) proposed the “Gateway Hypothesis” that use of a “lower or softer” drug (e.g., cigarettes) increases the likelihood of subsequent use of a “higher or harder” drug (e.g., opiate). Whether this sequence involves causality, accessibility, cultural norms, or other factors is not clear because the hypothesis is based on epidemiological data. Yet, public policies, drug prevention programs, and treatments have inferred a causal relationship from use of softer to harder drugs. The present experiment evaluated the Gateway Hypothesis in a rat model. Nicotine (addictive drug in tobacco) was administered to rats via a paradigm (SC osmotic minipumps) that models effects of 1/2-1 pack human daily cigarette use. The nicotine paradigm was followed by IV morphine self-administration. Male and female rats (N=32) were exposed to nicotine or saline, followed by the opportunity to self-administer morphine for 10 days. Rats pre-exposed to nicotine self-administered significantly less morphine compared to rats pre-exposed to saline. This finding was significant for male and female rats. The results contradict a causal mechanistic interpretation of the Gateway Hypothesis, at least with regard to adult rats. It may be that this animal model does not parallel the human condition, but this interpretation is unlikely because the nicotine and opiate paradigms that were combined in the present experiment have produced findings consistent with human studies of cigarette and opiate use. Alternatively, the age of the animals (i.e., young adults during the nicotine exposure) may matter because the Gateway Hypothesis has been based on initial soft drug exposure during childhood and adolescence. Another possibility is that reverse-drug tolerance may be occurring which would be reflected by the present findings, yet could still be consistent with the Gateway Hypothesis in humans if people increase the likelihood of using a second drug but without actually using more of it. These possible explanations and future directions for this research will be discussed.

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A131

6:00 PM-7:00 PM

ILLEGAL DRUG USE IN HAWAII COMPARED TO THE US: WHAT’S WRONG IN PARADISE?

Claudio Nigg, PhD, FSBM¹, Codie Garza, B.S.², Minami Konishi, MPH²¹University of Hawaii, Honolulu, HI; ²University of Hawaii at Manoa, Honolulu, HI

PURPOSE: Illegal drug use has negative physiological and psychological consequences. Reporting illegal drug use prevalence may inform decision makers and stakeholders on the extent of this issue. The purpose is to assess the substance use prevalence rates among adults living in Hawaii compared to the US population. **METHODS:** Substance use – specifically lifetime use of cocaine, ecstasy and crystal methamphetamine (meth) rates from the National Survey on Drug Use and Health (NSDUH) were investigated for trends (2006/2007 to 2010/2011 [the latest data available]) and compared to the US population (2010-2011). Two year averages were used due to power issues. The NSDUH is a household interview conducted on state representative samples across the US. **RESULTS:** Lifetime cocaine use in Hawaii did not significantly change over the time period investigated and in 2010-2011 was 22.1% (95% CI = 17.5% to 27.6%), however was significantly higher compared to the US rate of 16.0%. Lifetime ecstasy use in Hawaii did not significantly change over the time period investigated and in 2010-2011 was 9.4% (95% CI = 6.7% to 13.1%), however was significantly higher compared to the US rate of 6.4%. Lifetime meth use in Hawaii did not significantly change over the time period investigated and in 2010-2011 was 7.1% (95% CI = 5.1% to 9.6%), however was significantly higher compared to the US rate of 4.3%. **CONCLUSION:** Cocaine, ecstasy and meth use is not increasing in Hawaii, which is promising. However, the relatively stable lifetime use rates (lack of improvement/decrease), combined with the fact that they are substantially higher compared to the US rates indicates the need for more resources, attention and intervention in prevention and treatment. Potential explanations why the illegal drug use rates are higher in Hawaii versus the US may be related to socioeconomic, diversity, culture, or other lifestyle reasons and should be more carefully researched to maximize prevention and treatment effectiveness.

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Thursday
March 31, 2016
8:15 AM-9:30 AM

Symposium 1

8:15 AM-9:30 AM

NEW APPROACHES TO OBESITY PREVENTION AND TREATMENT: FINDINGS FROM THE OBESITY-RELATED BEHAVIORAL INTERVENTION TRIALS (ORBIT)

Susan M. Czajkowski, Ph.D.¹, Hollie Raynor, PhD, RD², Angela J. Jacques-Tiura, PhD³, Erica Phillips, MD, MS⁴, Bonnie Spring, PhD⁵¹National Heart, Lung, and Blood Institute, NIH, Bethesda, MD; ²University of Tennessee, Knoxville, TN; ³Wayne State University, Detroit, MI; ⁴Weill Cornell Medical College, New York, NY; ⁵Northwestern University, Chicago, IL

Given that obesity and related behaviors (adverse diet, sedentary lifestyle) are major contributors to cardiovascular disease, cancer, type 2 diabetes and other chronic conditions, developing more effective obesity-related interventions is a major public health objective. In this symposium, Investigators from the NIH-funded Obesity Related Behavioral Intervention Trials (ORBIT) consortium will present findings from projects exploring novel approaches to developing more effective obesity-related interventions.

ORBIT is a trans-NIH cooperative agreement program that supports seven research sites and a Resource and Coordination Unit (RCU) to facilitate cross-site activities. At these sites, interdisciplinary teams of basic and applied behavioral and social science researchers collaborate to develop, test and refine novel interventions to translate findings from basic research on human behavior into more effective clinical, community, and population interventions for obesity and obesity-related health behaviors (e.g., diet, physical activity). The goal is to accelerate the translation of discoveries from basic biological, behavioral and social science research into innovative strategies aimed at preventing or treating obesity.

First, an overview of the ORBIT framework, a phased approach to behavioral intervention development, will be presented. Findings from three of the ORBIT projects will then be described: (1) application of findings from basic research on habituation (e.g., altering dietary variety) to weight loss interventions; (2) a sequential multiple assignment randomized trial (SMART) in African American adolescents involving motivational interviewing, skills building and contingency management delivered by community health workers; and (3) research investigating the effects of a “small change” intervention in diet and physical activity conducted in African American and Latino adults. Following these talks, a discussant who is expert in behavior change interventions will discuss these findings and provide a perspective on future directions in obesity-related research.

Symposium 1A

HARNESSING HABITUATION, VIA REDUCING DIETARY VARIETY, TO ENHANCE OBESITY TREATMENT

Hollie Raynor, PhD, RD

Basic behavioral research shows reducing food variety decreases intake. This effect may be due to habituation, in which repeated presentation of the same food decreases responding. While obesity treatment commonly provides energy-based dietary goals, few investigations have examined how a dietary variety prescription can be added to an energy-based dietary goal to assist with reducing intake and enhancing weight loss. Ideally, a reduced variety prescription for weight loss targets foods contributing excessive amounts of energy and little nutrient value to the diet. Two studies have tested differing ways of reducing variety within behaviorally-based obesity interventions. The first investigation combined reducing variety of high-energy-dense foods (entrées and snack foods) with a 1000-1500 kcal/day prescription within a 6-month, family-based intervention (FBT) for families with an 8-12-year-old child who was overweight/obese and a parent who was overweight/obese. Families in FBT+Variety developed weekly meal plans that encouraged repetition of entrées, assisting with reducing variety and enhancing repeated exposure. The variety prescription increased child percent overweight (FBT+Variety -15.4% vs. FBT -8.9%, $p = 0.017$) and parent body mass index (BMI) reductions (FBT+Variety -3.7 kg/m² vs. FBT -2.3 kg/m²; $p = 0.017$). Positive relationships occurred between reductions in variety of high-energy-dense foods and decreases in child standardized BMI ($r = 0.54$, $p = 0.02$) and parent BMI ($r = 0.45$, $p = 0.08$). The second investigation also combined a low-energy diet (1200-1500 kcal/day) with a reduced variety high-energy-dense foods (snack foods) prescription within an 18-month lifestyle intervention for adults who were overweight/obese. No guidelines about repeating snack food exposure were provided. While the variety prescription significantly enhanced reduction of snack food intake, there was not a greater decrease in overall intake or enhanced weight loss. Thus, reducing dietary variety can improve weight loss, but how the prescription is implemented may impact outcomes.

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Symposium 1B

A SMART DESIGN FOR TESTING METHODS TO REDUCE WEIGHT AMONG AFRICAN AMERICAN ADOLESCENTS: EFFECTS OF EXECUTIVE FUNCTION AND RELATIVE REINFORCING VALUE OF FOOD

Angela J. Jacques-Tiura, PhD

Although over one-third of American adolescents are overweight or obese, African American adolescents are disproportionately affected by obesity. Few weight loss trials focus on this group, and success has been limited. In a sequential multiple assignment randomized trial (SMART), 181 12–16 year-olds (*Age*=14.3 years; 67% female) with primary obesity and a caregiver were first randomized to 3 months of twice-weekly home-based (HB) or office-based (OB) delivery of motivational interviewing plus skills building delivered by community health workers. After 3 months, non-responders to the first phase of treatment were re-randomized to continued skills (CS) or contingency management (CM), both delivered in the home twice-weekly. There were no significant differences in decreases in percent overweight or metabolic syndrome risk factors between HB or OB intervention delivery, or between CS or CM among first-phase non-responders. However, families randomized to HB in phase 1 attended significantly more sessions than OB families in both phases of the trial, and families receiving CM attended more sessions than families receiving CS in the phase 2. Adolescents with stronger executive functioning and lower relative reinforcing value of food levels lost more weight and improved metabolic syndrome risk factors in certain sequences. Findings imply that HB treatment and CM increase session attendance for African American youth, but more potent obesity interventions are needed. Future directions include 1) a basic behavioral science study underway to understand the relationship between relative reinforcing value of food, executive functioning, brain response indicated in fMRI scans, and food and activity choices in this group and 2) the development of physical activity interventions to improve executive function and metabolic syndrome outcomes.

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Symposium 1C

ONE SIZE DOES NOT FIT ALL: DEVELOPING SMARTER BEHAVIORAL WEIGHT LOSS INTERVENTIONS AMONG THOSE AT HIGHEST RISK

Dr. Erica Phillips, MD, MS

Obesity continues to disproportionately impact racial/ethnic minority and socioeconomically disadvantaged populations. Currently there is limited empirical evidence that clinically meaningful (5% or more) weight loss can consistently be produced in these populations. In our most recently completed weight loss behavioral intervention RCT, Small Changes and Lasting Effects (SCALE), supported by NHLBI, we evaluated the impact of a small change eating behavior and physical activity intervention on achieving clinically meaningful weight loss among 405 Black and/or Latino adults residing in Harlem and the South Bronx in NYC. Overall, only 20% of our trial participants lost 5% of total body weight by 12 months, however, 79% of those who lost 3% of TBW by 3 months were successful in achieving 5% weight loss at one year. Participants with lower weekly perceived stress, higher self-efficacy for their small change behaviors (i.e., > 9 on a scale of 1 to 10, where 10 is the highest) and the least challenges (i.e. < 4 on a scale of 1 to 10, where 1 is the least challenging) in doing their small behaviors lost the most weight. Over the course of the trial we closely monitored interval life events (ILE) and developed a method for coding these events. Family conflicts was the second most reported type of ILE (14% of total events N=127). Almost all participants who reported a family conflict gained weight over 12 months. Applying lessons learned from SCALE the next phase of our work will be the development of an adaptive small change eating and physical activity intervention with the goal of increasing the percentage of participants achieving at least 5% weight loss at 6 months. Using a SMART (sequential multiple assignment randomized trial) design non responders (less than 3% TBW) will be re-randomized at 3 months to an adaptive small change intervention augmented with a mindfulness based stress reduction (MBSR) component. In a recent pilot study we found an increase (45.5% pre vs 69.2% post intervention p value 0.9) in healthy eating behaviors (defined as engaging in more than 3 of the following eating organic, low fat diet, high fiber diet, dessert not daily, eating fruit or vegetables weekly) among women who at baseline reported increased family stress/conflicts. Participants in the pilot received 4 weekly sessions of the MBSR component.

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Symposium 2

8:15 AM-9:30 AM

NOVEL INTERVENTION STRATEGIES FOR REDUCING SEDENTARY BEHAVIOR IN THE WORKPLACE

Emily L. Mailey, PhD¹, Matthew Buman, PhD², Lucas Carr, PhD³, Abby King, PhD⁴

¹Kansas State University, Manhattan, KS; ²Arizona State University, Phoenix, AZ; ³University of Iowa, Iowa City, IA; ⁴Stanford University School of Medicine, Stanford, CA

Until recently, sedentary behavior was considered synonymous with a lack of moderate/vigorous physical activity (MVPA); however, current evidence suggests prolonged sedentary time has deleterious health effects that are independent of participation in MVPA. Furthermore, because they are distinct behaviors, strategies for increasing MVPA may not be effective for reducing sedentary behavior. In fact, recent reviews have confirmed that efficacious interventions for MVPA do not reduce overall sedentary time. This suggests that novel intervention approaches that specifically target sedentary behavior are warranted. However, there is a notable gap in research identifying effective behavioral strategies for reducing sedentary behavior. The workplace is an ideal setting for implementing interventions to reduce sitting time, as a majority of adults spend up to half of their waking hours at work, and over 80% of adults now have sedentary occupations. Furthermore, the structure of workplaces facilitates a multi-level approach to behavior change, whereby organizational and environmental changes can be added to individual behavior change strategies to bolster intervention effects. In light of the mounting epidemiologic evidence linking sedentary behavior with negative health outcomes, it is an opportune time to elevate sedentary behavior interventions to a place of prominence in behavioral medicine. This symposium will present findings from several recently completed interventions to reduce sedentary behavior in the workplace, identify novel intervention strategies for reducing sedentary time, and discuss future directions for this important line of research.

Symposium 2A

EFFECTS OF TWO INTERVENTION APPROACHES FOR REDUCING SITTING TIME AT WORK ON SEDENTARY BEHAVIOR AND HEALTH: THE UP4HEALTH TRIAL

Dr. Emily L. Mailey, PhD

Despite strong emerging evidence from laboratory studies that breaking up sedentary time confers positive cardiometabolic outcomes, the extent to which such outcomes can be observed in the context of a real-world intervention warrants further investigation. Furthermore, no studies to date have examined whether different approaches to breaking up prolonged sitting during the workday are equally feasible and effective. Thus, the purpose of the Up4Health study was to determine whether varying the frequency and length of activity breaks during the workday would differentially impact health and behavioral outcomes. All participants (N=49) were advised to accumulate 30 minutes of activity during each workday across the course of an 8-week intervention, but half were randomly assigned to take short, frequent breaks (i.e., 1–2 minutes every half hour) and half were instructed to take longer, planned breaks (i.e., two 15-minute walks). A variety of behavioral strategies were used to promote adherence to the recommended protocols. Health outcomes (cholesterol, triglycerides, glucose, blood pressure) and sedentary time (measured using accelerometers) were assessed at baseline and post-intervention. Adherence was assessed using daily activity logs. Results showed adherence rates of 69.2% and 60.8% in the short and long break groups, respectively. Sedentary time during the workday decreased significantly in the short break group (-35.6 min; *d*=-0.75), but did not change in the long break group. Participants in the short break group also demonstrated small-to-moderate declines in total cholesterol (-10.0 mg/dL; *d*=-0.33), triglycerides (-20.76 mg/dL; *d*=-0.38) and fasting blood glucose (-4.19 mg/dL; *d*=-0.29) from pre to post-intervention. Thus, this study demonstrated that taking short, frequent breaks from sitting during the workday is a feasible and effective approach for reducing sedentary time at work and improving health. These results have important implications for the development of public health messages addressing sedentary behavior, and inform future interventions to reduce sedentary time in the workplace.

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Symposium 2B

LONG-TERM EFFECTS OF SIT-STAND WORKSTATIONS ON WORKPLACE SEDENTARY TIME AND CARDIOMETABOLIC HEALTH: A NATURAL EXPERIMENT

Dr. Matthew Buman, PhD

Behavioral interventions to increase moderate-vigorous physical activity are well-established; however, interventions targeting sedentary time (i.e., sitting) are still needed. American workers spend 70–80% of their workday sitting. Worksites offer unique opportunities to deliver multi-level interventions (e.g., individual, environmental, and policy). We conducted a quasi-experimental, naturalistic evaluation of a university workplace relocation of faculty and staff ($n=31$) from a traditional sitting workspace to an “activity permissive” workspace with the installation of sit-stand workstations. Additional support was provided through the 4-month “Stand & Move ASU” intervention including weekly e-newsletters focused on behavioral strategies to reduce sitting, signage, and managerial support. A comparable worksite of university faculty and staff ($n=19$) not involved in the relocation were recruited as a control and received a 4-month attention-matched, ergonomic-focused intervention. Outcome measures were collected at baseline, 4 months, and 12 months. Sedentary time was assessed objectively over 7 consecutive days with the activPAL3c and accompanied by a self-report log of sleep, work, and non-work times. Cardiometabolic outcomes were blood pressure, weight, and fasting levels of cholesterol, glucose, and insulin. Study retention was 100% at 4 months for both groups, and 74% and 82% at 12 months for the Stand and Move ASU and control groups, respectively. At 4 months, sitting time was reduced by 31.5 ± 43.2 min/8-hr workday ($p=0.03$) in the Stand and Move ASU group relative to control. Glucose ($d=-0.47$, $p=0.25$) and insulin ($d=-0.31$, $p=0.31$) levels were modestly reduced at 4 months but no changes were observed for other cardiometabolic outcomes. At 12 months, sitting time reductions were maintained at 28.6 ± 42.1 min/8-hr workday ($p=0.04$) while glucose and insulin levels returned to baseline. Worksite health promotion interventions that incorporate the provision of sit-stand workstations may reduce sedentary time at work and produce concomitant improvements in some cardiometabolic parameters. Larger scale, randomized interventions (i.e., cluster-randomized trials) targeting sedentary behavior in the workplace are warranted.

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Symposium 2C

LESSONS LEARNED FROM A SERIES OF EXPERIMENTS TESTING ACTIVE SITTING DEVICES TO INTERRUPT SEDENTARY TIME

Dr. Lucas Carr, PhD

Sedentary behavior has been defined as “any waking activity characterized by an energy expenditure ≤ 1.5 metabolic equivalents and a sitting or reclining posture.” However, this definition fails to account for activities performed while in a seated position such as bicycling. While most interventions targeting sedentary behaviors have focused on reducing sitting time, the questions remains whether this is the only approach. Interventions that promote “active sitting” also hold potential for protecting against the health consequences of prolonged sedentary time and improving worker’s productivity. Active seated workstations are designed to allow the user to pedal at a light to moderate intensity while remaining seated at the desk. Our group has conducted a series of experiments testing the acceptability, feasibility and efficacy of three different active seated workstations in real work settings. In an initial proof of concept study ($N=45$), we found seated active workstations to be acceptable by users and effective for offsetting occupational sedentary time without compromising cognitive function and/or work performance. In a four week feasibility study with 18 full-time employees working in sedentary desk jobs, participants used a seated cycling device for an average of 23 minutes/working day. In a follow-up 12 week randomized controlled trial with 49 full-time employees working in sedentary desk jobs, participants used the same pedal devices an average of 31 minutes/work day when it was paired with a behavioral intervention. Finally, in a recent 16 week randomized controlled trial with 54 full-time employees working in sedentary desk jobs, participants used a seated active elliptical station an average of 50 minutes/work day when it was paired with an ergonomic intervention. This presentation will summarize the findings of this work, will address several lessons learned, and will provide some recommendations for future research.

Symposium 3

8:15 AM-9:30 AM

BEST PRACTICES AND LESSONS LEARNED: USING TECHNOLOGIES IN CANCER PREVENTION AND CANCER CONTROL INTERVENTIONS

Maria Swartz, PhD, MPH, RD¹, Karen Basen-Enquist, BA, MPH, PHD², Carmina G. Valle, PhD, MPH³, Elizabeth Lyons, PhD, MPH⁴, Susan K. Peterson, PhD, MPH⁵, David K. Ahern, PhD⁶

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Technology-based lifestyle interventions have shown to be effective in promoting lifestyle change. However, with the advancement and popularity of new technologies that can capture health related data for clinical or intervention use, formative work is critical to develop technology-based behavioral interventions or remote surveillance programs. The purpose of this symposium is to summarize the lessons learned and to propose best practices from four behavioral interventions that used various technological modalities for cancer prevention and control (wearable monitors, social media, mobile game-based, and remote monitoring devices). For this session we will present lessons learned from: 1) applying health behavior theory and behavior change techniques during the intervention development and refinement phase using multiple technology-based surveillance strategies, 2) applying social network modalities, such as Facebook, and objective self-monitoring to lifestyle change interventions among cancer survivors, 3) using game mechanics to reframe behaviors to increase motivation for behavior change among cancer survivors, and 4) discussing ethical consideration and clinical application of sensors for distance monitoring and their usability for Just-In-Time behavioral interventions. Our discussant will provide an assessment of the lessons learned as well as the pros and cons of the modalities to provide guidance for future development of technology-based interventions in cancer research.

Symposium 3A

USING MOST TO OPTIMIZE A WEIGHT MANAGEMENT INTERVENTION FOR BRCA+ CANCER SURVIVORS AND THEIR FAMILY MEMBERS

Dr. Karen Basen-Enquist, BA, MPH, PHD

The benefits of exercise and weight management for survivors and family members have led to recommendations that they be incorporated into health care. However, programs are often too expensive and time intensive to administer in a health care setting, for two primary reasons: (1) they often need to be delivered in person, which is difficult for patients who have infrequent visits to their health care provider; and (2) often interventions include multiple components, without evidence on which ones are effective. Interventions with ineffective components add cost and participant burden. To address these two issues, we are using a Multiphase Optimization Strategy (MOST), to refine an intervention to increase physical activity, improve diet quality, and manage weight in BRCA+ breast and ovarian cancer survivors and their family members. MOST, an innovative methodology adapted from engineering, aims to optimize multicomponent interventions by identifying the most active intervention components. In a MOST study participants are randomly assigned to various combinations of intervention components. This is done using a factorial design where effects on outcomes can be tested for each component. Our intervention, HEALTH4Families, tests 4 intervention components: telephone coaching versus email coaching, text messages (yes/no), social networking (yes/no), high versus low intensity self-monitoring. Preliminary results indicate that after the first 8 weeks of the 16-week intervention participants have high levels of satisfaction with the intervention as a whole; 95% said the program motivated them to manage their weight, and 80% would recommend the program to a family member. They gave high satisfaction ratings to telephone and email coaching, but found text messaging and online social networking to be less useful. Additional results will be presented, with implications for the design of future distance-based interventions.

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Symposium 3B

USING SOCIAL NETWORKING SITES AND OBJECTIVE MONITORING DEVICES TO PROMOTE BEHAVIOR CHANGE IN CANCER SURVIVORS

Dr. Carmina G. Valle, PhD, MPH

Using technology has the potential to make behavior change interventions more accessible to diverse populations of cancer survivors. Few interventions have used social networking sites or objective monitoring devices to promote physical activity (PA) and weight control among cancer survivors. We will present challenges and lessons learned from two randomized trials. In the FITNET study, we evaluated a 12-week Facebook-based PA intervention for young adult cancer survivors and demonstrated significant increases in light PA among the intervention group relative to a Facebook-based self-help comparison group. Participants ($n = 86$; 31.7 ± 7.1 y, 91% female) were recruited primarily through social media. Intervention materials included a Facebook group, weekly lessons, moderated group discussion prompts, pedometers, and access to a goal-setting and self-monitoring website. Utilizing Facebook messages and group features was feasible, and the emergence of social interaction within both groups demonstrated the potential for peer-led groups to encourage behavior change. Challenges included dynamic Facebook functionality and evaluating intervention exposure and adherence. In the WELL Body study, we evaluated two 6-month interventions that promoted daily self-weighing (DSW) for weight gain prevention in female African American breast cancer survivors. Participants ($n = 35$, 53.0 ± 9.1 y, BMI 33.9 ± 5.9) were randomly assigned to 1 of 3 groups: 1) DSW + PA tracking; 2) DSW; or 3) delayed control. Intervention participants received an individual session, wireless scale (and PA tracker), weekly e-mailed lessons, and tailored feedback based on real-time weight and PA data. Over 6 months, intervention participants self-weighed more days/week on average than control participants (5.0 ± 1.9 vs. 1.0 ± 1.1 ; $p < .0001$). Among women who received PA trackers, 73% wore them 5 days/week or more on average. Overall, social networking sites and objective monitoring devices are feasible approaches for promoting healthy behaviors in cancer survivors.

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Symposium 3C

USING GAME MECHANICS TO REFRAME BEHAVIORS AND INCREASE MOTIVATION AMONG CANCER SURVIVORS

Dr. Elizabeth Lyons, PhD, MPH

Rewards are common components in behavioral interventions, but their implementation can vary and differentially affect motivation. This talk will provide a brief overview of suggested best practices for use of rewards based on Self-Determination Theory, philosophies of games and play, targeting unique barriers among cancer survivors, and lessons learned using games in behavioral interventions. Use of concrete external rewards such as prizes or money can decrease the intrinsic motivation to engage in a health behavior, but intervention rewards can be reframed to better match how rewards are treated in game contexts. Doing so may increase autonomous motivation for several reasons: 1) Games offer a safe way to try and fail at new things. They initiate failure and then provide guidance and opportunities to overcome it – reframing failure from a trait into a state. 2) Games promote social interaction. Rather than providing concrete external rewards, which can reduce autonomous motivation, games can also be used to facilitate unexpected and highly motivating social rewards. 3) Games tell stories, which are effective tools for persuasion and motivation. Even in games that have no true narrative content, games tell a story about the player that can be used in experience-taking and virtual self-modeling interventions. These types of interventions are well-suited for cancer screening and cancer control projects. 4) Games provide metaphors that facilitate goal-setting and action-planning. Games provide a sense of meaning and context to the process of “leveling up” or self-improvement. Metaphors are commonly used by cancer survivors; however, there is preliminary evidence to suggest that helping survivors determine individualized metaphors might be more effective in improving mood and motivation. In summary, I suggest that rewards be conceptualized as game mechanics when implemented in behavioral interventions. Creating autonomously motivating rewards is a complex process that requires attention to safety, social support, narrative, and metaphors.

Symposium 3D

SENSOR TECHNOLOGY FOR BEHAVIORAL ASSESSMENT AND INTERVENTION IN CANCER SURVIVORS: APPLICATIONS AND ETHICAL CONSIDERATIONS

Susan K. Peterson, PhD, MPH

Sensor technology can broaden the quality of data collected on behavioral factors related to cancer prevention and treatment outcomes. Systems that integrate data captured through objective sensor-based monitoring, self-report, and other sources can serve as platforms for both behavioral assessment and intervention delivery, and enable pursuit of new research questions by increasing capacity for larger, more complex data sets. Implementing this technology in behavioral research requires consideration of user acceptability, data quality, and ethical and privacy concerns. One such system that supports monitoring of cancer survivors outside of the clinic setting is CYCORE (CYberinfrastructure for COMparative effectiveness REsearch), a software-based cyberinfrastructure enabling comprehensive collection, storage and analyses of data from multiple domains, including home-based and mobile sensors. We are testing CYCORE's efficacy in an ongoing randomized controlled trial to identify head and neck cancer (HNC) patients at risk of dehydration during radiation therapy (RT) using sensor-based data (i.e., reduced blood pressure, weight (wt), increased pulse, and patient-reported outcomes (PRO) including decreased fluid intake). Outcomes include hospital and emergency room admissions, and related costs. To date, 124 patients are enrolled (89% recruitment and 90% retention rates). HNC patients randomized to CYCORE take daily home readings of wt, blood pressure and pulse via Bluetooth enabled devices, and complete daily assessments of symptoms and other PRO via tablet. Patients' data are available in near real-time for evaluation by health care providers via a Web-based interface. Preliminary data showed that 59% of HNC patients randomized to CYCORE presented physiologic signs of dehydration during RT. Worse daily ratings of nausea and vomiting predicted dehydration risk. Mean scores on ratings of acceptability, self-efficacy with remote monitoring, providing data to health care providers, and perceived utility of data exceeded 9 on a 0 to 10 scale, with few privacy concerns. CYCORE may benefit patients during acute care by providing additional support and intervention.

Symposium 4

8:15 AM-9:30 AM

MANAGING COMPLEX PATIENTS IN PATIENT CENTERED MEDICAL HOMES: LESSONS LEARNED FROM THE VETERANS HEALTH ADMINISTRATION

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In the 21st century, the US health care system faces high costs and suboptimal health outcomes particularly among complex patients with multiple chronic health conditions. The top 5% most expensive patients typically account for > 50% of all costs in a given year, which is consistent across health care organizations. The Veterans Health Administration (VHA) serves a vulnerable patient population characterized by older age, multiple morbidity, and high disability. In 2010, VHA implemented patient-centered medical homes (PCMH) to improve care coordination for complex patients. More recently, VHA has piloted care management models to augment PCMH teams in caring for high-risk veterans. This symposium will discuss key learnings from VHA that can inform behavioral interventions for an aging population by: 1) describing a theoretical model of complexity that accounts for multimorbidity; 2) better measuring patient complexity to prioritize care resources; and 3) developing approaches for provider teams to manage high-risk patients over time. The first speaker will discuss a new conceptual model to help researchers select constructs and potential targets for intervention for high cost, multimorbid patients. The second speaker will present challenges and lessons learned from a multisite, intensive outpatient care management demonstration aimed at improving outcomes among high-risk veterans. The third speaker will present evaluation findings from the VHA PCMH implementation and will discuss the evidence for the PCMH model for veterans with mental illness, high co-morbidity burden, or those with chronic medical conditions. Finally, the discussant will comment on these findings and lead a discussion of new ways to manage this population with proactive behavioral medicine strategies that support healthier patient lifestyle and self-management behaviors.

Symposium 4A

THE CYCLE OF COMPLEXITY MODEL: MORE THAN MULTIMORBIDITY

Dr. Matthew L. Maciejewski, PhD

Patient complexity is often operationalized by counting multiple chronic conditions (MCC) without considering contextual factors that can affect patient risk for adverse outcomes. Clinical practice guidelines rarely address multiple conditions, care plans for MCC patients based on a single-disease paradigm may be impractical or harmful, and there is scant evidence to inform optimal care management of MCC patients because most care models are ineffective or effective but not scalable.

Patient complexity is a related but distinct concept from MCC, which recognizes that for patients with functional and health limitations, key challenges are social or non-medical issues that are not easily amenable to healthcare intervention. The complicated interplay between medical and non-medical factors that influence health outcomes may be particularly salient for complex patients. To improve the care of complex patients, clinicians must address “extra-medical” challenges, carefully eliciting patients’ evolving preferences as well as capacity to self-manage. Complicating non-medical challenges, providers face ongoing and evolving responsibility in a fragmented healthcare system that often lacks incentives for services coordination or meaningful communication about goals and priorities of patients and their families.

The presentation will present a new conceptual model of patient complexity – the Cycle of Complexity Model – that was informed by a systematic review of published conceptual models related to MCC or patient complexity. This conceptual model expands the common framing of MCC as synonymous with complexity to one in which MCC is one facet of complexity. This model may inform studies on the etiology of and changes in complexity, the relationship between complexity and patient outcomes, and intervention development to improve modifiable elements of complex patients.

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Symposium 4B

LESSONS LEARNED FROM IMPLEMENTING INTENSIVE OUTPATIENT PROGRAMS FOR HIGH-RISK PATIENTS IN THE VETERAN HEALTH ADMINISTRATION

Evelyn Chang, MD, MSHS

Interest in intensive management of patients with complex medical, psychiatric, and social needs is high as this population utilizes a disproportionate amount of healthcare expenditures. While the Veterans Health Administration (VHA) has had innovative longitudinal programs for special populations, such as home-based primary care and homelessness outreach programs, most (80%) high-risk Veterans are cared for in the general primary care setting. Because the needs of high-risk patients often exceed the resources of conventional primary care teams, new care models are needed. Such models represent behavioral interventions at the provider and systems levels to change processes of care. In 2014, the VA implemented a multi-site initiative to implement and evaluate innovative models of care that augment existing primary care services for this population. Patients who were identified as being at high risk for acute care use, using a risk-modeling approach developed with VA data, were offered participation in this novel population-based quality improvement program.

This session will describe the new VHA initiative to improve care for high-risk Veterans, the care models being piloted, the challenges of implementing them, and the lessons learned thus far that can inform care for similar at-risk patients in settings outside VHA.

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Symposium 4C

FINDINGS FROM THE NATIONAL VHA PATIENT CENTERED MEDICAL HOME EVALUATION

Dr. Karin Nelson

In 2010, the Veterans Health Administration (VHA) implemented its version of the patient-centered medical home (PCMH) model, Patient Aligned Care Teams (PACT) to help improve the coordination or primary care services for patients in VHA. This presentation will discuss key findings from three projects conducted as part of a national evaluation of PACT to illustrate how patients with complex and chronic health conditions interact with these new care models. The first project will examine the prevalence, comorbidity burden and prognosis among veterans with mental illness. A quarter of all veterans in PACT patients had one or more mental illness diagnoses. Veterans with depression, SMI, and SUD had a higher likelihood of hospitalization or death among compared to patients without those conditions. Among Veterans with mental illness, having ≥ 1 contact with primary care mental health integration (PCMHI) program was associated with better outcomes than patients without PCMHI contact. The second project examined the association of PACT implementation was associated with quality of care. Clinics with higher PACT implementation had significantly larger improvements in 3/8 chronic disease process and 5/7 chronic disease outcome quality measures examined. Focusing PCMH resources across all patients may result in downstream improvements in care quality for patients with chronic conditions. The third project examined whether patients with high-comorbidity burden (defined by Gagne comorbidity score) had larger increases in primary care visits attributable to PACT relative to other enrolled patients. This retrospective cohort consisted of a 1% random sample of 9.3 million VHA patients enrolled in primary care from 2003-2013. We applied interrupted time-series models to estimate the marginal change in primary care use attributable to PACT. PACT implementation was associated with greater use of VHA primary care for patients with higher comorbidity. These results suggest PACT elements improving access and care coordination disproportionately influenced higher comorbidity patients. These studies illustrate the importance of the PCMH model for caring with Veterans with multi-morbidity, including addressing behavioral and mental health issues.

Symposium 5

8:15 AM-9:30 AM

BURDEN OF PHYSICAL AND PSYCHOLOGICAL CHALLENGES IN PEOPLE WITH DIABETES AS THEY MANAGE THEIR EFFORTS TO FOLLOW HEALTHY BEHAVIORS

Barbara Stetson, PhD¹, Amy Huebschmann, MD, MS², Chelsea Rothschild, Ph.D.³, Elizabeth A. Beverly, PhD⁴, Marilyn D. Ritholz, PhD⁵, William Tynan, PhD⁶

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Diabetes now affects up to 14 percent of the U.S. population. Living with this chronic condition can be physically and behaviorally demanding and morbidity and mortality levels are high. Comorbidities include physical conditions such as microvascular and cardiovascular complications as well as psychological complications such as elevated distress and depressive and anxiety symptomatology. Behavioral management focused on diet, physical activity and self-care is a cornerstone of treatment. However, adherence is often less than optimal. The burden of physical demands, complications and the self-care regimen can exert a toll and impact the trajectory of patient care. This symposium draws on mixed methods studies to examine specific aspects of the physical burden of diabetes, perceptions of efforts to follow physical activity and dietary recommendations and the patient experience of and response to provider focus on their diabetes complications. This symposium includes four presentations. The first examines findings from a clinical study of physiological and perceptual responses to physical activity exertion in overweight, sedentary older women with and without Type 2 diabetes (T2D). The second presentation focuses on a clinical study of multidimensional aspects of fatigue and associations with well-being and self-care in a clinic sample of adults with T2D. The third draws on qualitative data from in-depth interviews of adults with T2D, examining their perceptions of and approach to food and fast food culture. The fourth presentation explores findings from a study of Type 1 and T2D patient's understanding of and emotional response to discussing diabetes complications with a healthcare provider. The discussant will address the diagnostic overlap between lethargy, poor sleep, diet and inactivity, medical conditions and depression. In total, these presentations suggest that people with diabetes experience an abnormal situation with high burden of physical and psychological challenges that create uncertainty for the future. Patient centered care that approaches perceived burden and depressive and anxious symptoms as appropriate responses to be managed may promote optimal diabetes self-care.

Symposium 5A

TYPE 2 DIABETES MELLITUS ALTERS THE PERCEPTION OF PHYSICAL EFFORT DURING EXERCISE

Amy Huebschmann, MD, MS

Type 2 diabetes (T2DM) is associated with high levels of disability and mortality. Regular exercise prevents premature disability and mortality, but people with T2DM are generally sedentary for reasons that are not fully established. We previously observed that premenopausal women with T2DM report greater effort during exercise than their nondiabetic counterparts, as measured by the Rating of Perceived Exertion (RPE) scale. We hypothesized that RPE is greater in older women with T2DM vs. no T2DM.

We enrolled overweight, sedentary women aged 50–75 years with ($n=26$) or without T2DM ($n=28$). Participants performed submaximal cycle ergometer exercise at 30W and 35% of individually-measured peak oxygen consumption (35% $\text{VO}_{2\text{peak}}$). We assessed exercise effort by RPE (self-report) and plasma lactate concentration and heart rate during exercise.

$\text{VO}_{2\text{peak}}$ was lower in T2DM vs. controls ($P = 0.003$). RPE was greater in T2DM vs. controls, albeit not statistically significant (30W: Control, 10.4 ± 3.2 , T2DM, 11.7 ± 2.3 , $P = 0.08$; 35% $\text{VO}_{2\text{peak}}$: Control, 11.1 ± 0.5 , T2DM, 12.1 ± 0.5 , $P = 0.21$). However, lactate was greater in T2DM vs. controls ($P = 0.004$ at 30W; $P < 0.05$ at 35% $\text{VO}_{2\text{peak}}$). Greater RPE was associated with higher lactate, higher heart rate, and a hypertension diagnosis ($P < 0.05$ at 30W and 35% $\text{VO}_{2\text{peak}}$).

Taken together, physiological measures of exercise effort were greater in older women with T2DM than controls at work rates that are less intense than many activities of daily living. Because people tend to prefer physical activities with an intensity in the 11–14 range of RPE, our findings provide some additional support to existing concerns that overweight, sedentary individuals with and without T2D may avoid activities of daily living because they are perceptually too difficult and hence unpleasant. Exercise effort is a modifiable and thereby targetable endpoint. In order to facilitate regular exercise, methods to reduce exercise effort in T2DM should be sought.

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Symposium 5B

MULTIDIMENSIONAL ASPECTS OF FATIGUE AND ASSOCIATIONS WITH QUALITY OF LIFE IN TYPE 2 DIABETES

Dr. Chelsea Rothschild, Ph.D.

Diabetes can be physically and behaviorally demanding, requiring multiple daily self-care activities. Frequently reported symptoms include visual problems, recurrent infections, and persistent fatigue. Depression is also prevalent and impacts numerous health and behavioral outcomes. Fatigue is a common, overlapping symptom of both diabetes and depression, making this an important consideration for providers working within this population. Fatigue is studied in cancer and other chronic diseases as a multidimensional construct. The present study examines multidimensional aspects of fatigue in Type 2 diabetes (T2DM) and their associations with quality of life and self-care. Fatigue was assessed with the Multidimensional Fatigue Symptom Inventory-Short Form (MFSI-SF) which has 5 factors: (1) general fatigue; (2) physical; (3) emotional; (4) mental; and (5) vigor. Quality of life (QOL) was measured using both the mental and physical component scales of the SF-12. Participants were 151 patients with T2DM awaiting their clinic appointments. Fatigue levels in participants were comparable to fatigue levels observed in cancer and orofacial pain patients. Hierarchical regression was used to evaluate the impact of fatigue on physical and mental quality of life. Fatigue was found to significantly impact both physical ($p = .001$) and emotional ($p = .001$) quality of life when controlling for both depression and diabetes specific distress. Fatigue was significantly and negatively correlated with the SF-12 Physical Component Score ($r = -.374$, $p = .000$) and significantly and negatively correlated with the SF-12 Mental Component Score ($r = -.669$, $p = .000$) suggesting as fatigue scores increase, quality of life scores decrease. Results suggest that fatigue levels are high and that the multidimensional aspects of fatigue may impact different domains of QOL as well as self-care in T2DM, while controlling for both depressive symptomatology and diabetes specific distress. Fatigue scores may reflect both the physical and daily demands of living with T2DM.

Symposium 5C

MEANING OF FOOD IN TYPE 2 DIABETES: CONFLICT AMONG SELF-CARE, SOCIAL RELATIONSHIPS AND FAST-FOOD CULTURE

Dr. Elizabeth A. Beverly, PhD

Health is a key value that individuals use to negotiate everyday food choices, but the meaning of food in relationship to health, specifically type 2 diabetes, has not been examined extensively. The purpose of this qualitative study was to explore the meaning of food among adults with type 2 diabetes. A purposive sample of 19 adults (age = 68.7 ± 10.6 years, $\text{A1C} = 7.4 \pm 1.4\%$, diabetes duration = 10.9 ± 11.9 years, $\text{BMI} = 28.6 \pm 5.2$, education = 15.7 ± 2.6 years, 52.6% female, 100% White) participated in in-depth face-to-face interviews. Interviews were coded and analyzed via thematic analysis using NVivo 10 software. Qualitative analysis revealed three themes: 1) Food and the Demands of Diabetes Management: Participants described the role of food as operational; however, the diagnosis of diabetes changed how they approached food. Eating was dictated by time rather than hunger and pleasure. Further, the demands of diabetes increased participants' consciousness and awareness of food choices; 2) Diabetes, Perceptions of Food and Social Relationships: When asked to reflect on the meaning of food before they were diagnosed with diabetes, participants described it as social and celebratory. Since their diabetes diagnosis, most described a negative or ambivalent relationship with food. Many likened food to an enemy or poison. These participants often expressed a sense of guilt or personal failure if they indulged in "bad" foods. Some even chose to avoid social events and holiday get-togethers so as to not be tempted by food; 3) Struggling with Diabetes Management in a Fast-Food Culture: All participants referenced fast food when describing the cultural meaning of food in the US. Participants felt that the social, celebratory aspect of food coupled with the perceived fast food American culture was in direct conflict with the demands of diabetes. Participants struggled to follow a healthful diet in a culture that advertised the opposite. In conclusion, diabetes patients may benefit from education that addresses socioculturally embedded norms that guide food choices.

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Symposium 5D

IMPACT OF THE DISCUSSION OF DIABETES COMPLICATIONS

Dr. Marilyn D. Ritholz, PhD

Despite advancements in diabetes technology and management, eye, kidney, and nerve complications remain major health risks with significant psychosocial impact for people with diabetes. Few studies have explored how patients understand and respond to providers' discussion of diabetes complications. In this ongoing mixed methods study, we used content analysis to assess perceptions of these discussions, diabetes-related distress (Problem Areas in Diabetes-PAID), and depressive symptoms (Brief Symptom Inventory-BSI) in 135 patients (59±14 years old, 58% female, 66% type 1 diabetes, 28±14 years duration, $\text{A1c} = 7.6 \pm 1.1\%$, 72% with complications). 76% recommended that complications should be discussed early on or at diagnosis. When recalling their first discussion of complications, patients described providers giving: 1) clinical suggestions to avoid complications, 2) only factual information, or 3) warnings/ threats. When asked about recent (. Patients recommended improving communication (65%) by providers communicating honestly (13%) but positively (11%), knowing their patients (11%), promoting active participation (13%), and avoiding blame/fear (8%). They also suggested providers detail specific actions to prevent complications (50%) and provide hope and reassurance (40%). Diabetes distress scores did not differ for patients with vs. without complications (PAID: 24 ± 2 vs. 18 ± 2 , ns), but patients with complications had higher depressive symptoms scores than those without (BSI: 50 ± 11 vs. 46 ± 7 , $p = 0.004$). Our findings suggest patients want to know about complications and apply preventative strategies as early as possible. Notably, they value positive, honest and non-blaming communication, active patient participation and specific treatment options to enhance their hope, efficacy and motivation to improve self-care. Results also highlight the emotional toll that complications take on patients' lives, which suggests the need to address this important clinical situation. Further, understanding the implications of discussing complications at different stages in the lifespan will have a significant impact on clinical care.

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Symposium 6

8:15 AM-9:30 AM

ADDRESSING HEALTH DISPARITIES FACED BY BLACK AND LATINA WOMEN: RESEARCH PARTICIPATION, HEALTH RISKS, HEALTH CARE UTILIZATION

Lisa Rosenthal, PhD¹, Nicole M. Overstreet, PhD², Cheryl L. Woods-Giscombe, PhD, PMHNP³, Tene Lewis, PhD⁴¹Pace University, New York, NY; ²Clark University, Worcester, MA; ³The University of North Carolina at Chapel Hill, Chapel Hill, NC; ⁴Emory University, Rollins School of Public Health, Atlanta, GA

Black and Latina women face disproportionately high rates of many adverse health outcomes in the U.S. Simultaneously, Black and Latina women are underrepresented in health research and the seeking of mental health care services. Increasing theory and research suggest the importance of examining unique issues faced by Black and Latina women due to the intersections of race and ethnicity with gender and other characteristics to fully understand what is driving and what can be done to reduce these disparities. This symposium includes three presentations using varied research methods to address unique issues faced by Black and Latina women related to participation in health-related research, risk for adverse health outcomes, and utilization of mental health care services. Dr. Overstreet will present qualitative results finding benefits of participation in research; opportunities for self-reflection, expression, and helping others; and concerns about judgment and confidentiality contribute to research participation among Black women living with HIV. Dr. Rosenthal will present quantitative results finding that unique forms of discrimination Black and Latina women face are related to greater pregnancy-specific stress and lower relationship power, which are factors contributing to risk for adverse birth outcomes and sexual risk. Dr. Woods-Giscombe will present qualitative results finding that the Superwoman Schema; stigma; spirituality; and cultural sensitivity of mental health care providers contribute to Black women's utilization of mental health care services. Dr. Lewis will discuss the presentations' contributions to understanding what is driving and how to reduce health disparities faced by Black and Latina women. Overall, this symposium will help move the field forward in developing a deeper understanding of unique challenges faced by Black and Latina women that affect their health.

Symposium 6A

THE ROLE OF GENDERED RACISM IN SEXUAL AND REPRODUCTIVE HEALTH DISPARITIES AMONG BLACK AND LATINA WOMEN

Dr. Lisa Rosenthal, PhD

Black and Latina women in the U.S. experience disproportionately high rates of adverse sexual and reproductive health outcomes, such as preterm birth, low birth weight, HIV, and other STIs. Increasing evidence suggests experiences of gender, racial, or general discrimination contributes to these disparities. We aimed to test our hypothesis that gendered racism - the unique form of discrimination that Black and Latina women face due to the intersection of gender and race - is a key factor affecting racial disparities in women's sexual and reproductive health. We explored 2 aspects of gendered racism: 1) experiences of discrimination resulting from unique stereotypes of Black and Latina women related to sex and motherhood (e.g., promiscuity and single motherhood); 2) birth control-related mistrust of society and the medical field resulting from the history of forced sterilizations of Black and Latina women.

We collected survey data online with adult women in the U.S. We conducted bootstrap mediation analyses including data from 335 women who were pregnant or had at least 1 child; identified as Black, Latina, or White; and completed measures of interest. Controlling for sociodemographic variables, Black and Latina women did not report greater general discrimination, but did report greater gendered racism than White women did, including greater experiences of discrimination resulting from stereotypes and greater birth control-related mistrust. In turn, greater experiences of discrimination resulting from stereotypes were associated with greater pregnancy-specific stress (indirect effect=.08, SE=.02, *p* Findings support that gendered racism, unique discrimination Black and Latina women face due to the intersection of gender and race, may play a key role in racial/ethnic disparities in women's sexual and reproductive health outcomes and therefore deserves attention in future research.

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Symposium 6B

INTERSECTIONAL STIGMA IN HIV RESEARCH: RISKS AND BENEFITS OF RESEARCH PARTICIPATION AMONG HIV-POSITIVE AFRICAN AMERICAN WOMEN

Dr. Nicole M. Overstreet, PhD

African American women living in underserved communities have a higher incidence of HIV infection and their participation in HIV research is critical to understanding and reducing barriers to HIV treatment. However, recruitment may be stymied by women's concerns about participation harms. These participation harms may be shaped by HIV-positive women's experiences with multiple forms of stigma and discrimination related to their HIV-status, racism, and sexism (Logie et al., 2011). Despite these experiences of intersectional stigma, studies have yet to explore whether living with multiple marginalized social identities elicits ethical concerns and benefits when women choose to participate in HIV research. To better inform these issues, this study retrospectively explored open-ended responses from 83 HIV-positive women about their participation in a research study examining the relation between HIV, contextual factors, and mental health at an HIV care clinic. Codes were developed to understand study risks and benefits, confidentiality and safety concerns, and reactions to responding to sensitive topics, such as sexual risk behaviors and intimate partner violence. A majority of participants (52%) indicated that they personally benefited from participating in HIV research by being able to self-reflect on violence in their relationships and ways to improve their health, and that the study provided them with an opportunity to express their emotions related to experiences of HIV and intimate partner violence. Moreover, many participants (28%) expressed that their participation in HIV research was an opportunity to help other women who are HIV-positive and those who experience violence in their relationships. A majority of participants (33%) said that they had no concerns about research participation. However, women who did express concerns worried about being judged negatively if people were aware of their HIV-status and violence in their relationship (19%) and indicated being concerned about their data remaining confidential during the research process (15%).

Symposium 6C

MENTAL HEALTH SERVICE UTILIZATION IN BLACK WOMEN: SUPERWOMAN SCHEMA, STIGMA, SPIRITUALITY, & CULTURALLY-SENSITIVE PROVIDERS

Dr. Cheryl L. Woods-Giscombe, PhD, PMHNP

African American women experience significant mental health and mental health care disparities. For example, as many as 12 percent of African American women who experience symptoms of depression seek professional mental healthcare treatment (National Alliance on Mental Illness, 2009). There are several factors related to the intersection of race and gender for African American women that may play a role in this phenomenon, one of which may be Superwoman Schema. According to the Superwoman Schema (SWS) Conceptual Framework, the "superwoman" role involves perceived obligations to (1) project strength, (2) suppress emotions, (3) maintain independence while resisting vulnerability, (4) succeed despite limited resources, and (5) prioritize caregiving over self-care. In the current study, the research team conducted a secondary analysis of eight qualitative focus groups with 48 African American women from a broad range of age and educational backgrounds. The SWS Conceptual Framework was used as a guide in data analysis to identify barriers to mental health service utilization among African American women. Results suggest that the major components of SWS, as well as perceived stigma, issues related to religion and spirituality, and the desire for (culturally) sensitive providers influenced women's perceptions and use of mental healthcare. Findings from this study may help researchers and providers to understand and mitigate disparities in mental health service utilization among African American women.

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Symposium 7

8:15 AM-9:30 AM

DOES LOCATION REALLY MATTER? AN IN-DEPTH LOOK AT INDOOR TANNING IN SALONS, PRIVATE HOMES, AND OTHER NON-SALON LOCATIONS

Dawn Holman, MPH¹, Sherry Pagoto, PhD², Lori A. Crane, PhD, MPH³, Joel Hillhouse, Ph.D.⁴, Alan Geller, MPH⁵¹Centers for Disease Control and Prevention, Division of Cancer Prevention and Control, Atlanta, GA; ²University of Massachusetts Medical School, Worcester, MA; ³University of Colorado Anschutz Medical Campus, Aurora, CO; ⁴East Tennessee State University, Johnson City, TN; ⁵Harvard School of Public Health, Boston, MA

Released in July 2014, the *Surgeon General's Call to Action to Prevent Skin Cancer* outlined five strategic goals for skin cancer prevention, including a goal to “reduce harms from indoor tanning.” Previous efforts to address this goal have focused on legislative and educational approaches but typically have not addressed concerns about indoor tanning in non-salon locations. Building on a 2015 Society of Behavioral Medicine symposium on factors that promote frequent indoor tanning, the presenters will describe the different venues at which indoor tanning devices may be available for use and characteristics of the tanners who use them. First, Sherry Pagoto will present data on gender differences in frequency of salon, non-salon, and home tanning, as well as reasons for tanning in each of these locations. Next, Nancy Asdigian and Lori Crane will present differences between salon and non-salon users in tanning frequency and patterns, dependency, factors used to choose a tanning venue, and attitudes about tanning and being tan. The presentation will also delve into the characteristics of the tanning venues, including risk-related operating practices and cost. In the third presentation, Joel Hillhouse will share findings from a person-centered analysis in which he compares subgroups of non-salon tanners on variables hypothesized to predict use of non-salon locations (e.g., importance of cleanliness, cost, and convenience) and risk behaviors (e.g., frequency and patterns of use). Alan Geller will lead a critical discussion of the presentations and ways in which the findings can be used to identify strategies to reduce harms from indoor tanning and promote skin cancer prevention.

The findings and conclusions in this symposium are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Symposium 7A

THE HABITS OF MEN WHO TAN INDOORS

Dr. Sherry Pagoto, PhD

Although rates of indoor tanning are higher in women than men, millions of men engage in indoor tanning each year. Little is known about the habits of male tanners and where they prefer to tan. The present study examined gender differences in indoor tanning frequency, tanning dependence, tanning location. We also examined gender differences in acceptability of non-salon locations and influences in their decision about where to tan. Participants [N=636; 66% female, mean age=36 (sd=12.860), adults with a history of indoor tanning, were recruited via a national online panel. Multivariable regression models tested the associations between gender and the outcomes adjusting for age and skin type. Of those who had tanned in the previous 12 months (N=519), women reported more tanning visits (mean=19.75, sd=23.82) than men (mean=15.11, sd=17.27). However, male tanners were more than twice as likely as women to meet criteria for tanning dependence (OR 2.54; 95% CI 1.78 – 3.61). In terms of tanning location, male tanners were more likely than women to tan in private homes compared to a salon (OR 2.03; 95% CI 1.34 – 3.08). No gender differences emerged in non-salon tanning (p=.50). Men rated tanning in gyms, apartments, convenience stores, and homes more favorably than women (ps<.01). In terms of influences on their decision about where to tan, men rated the ability to get other services at the same time as their tan, fewer rules, and the ability to use tanning as a reward for workout as stronger influences than women. Women rated cleanliness, cost, convenience, and professionalism as stronger influences on tanning location than men (ps<.05). Results revealed that although female tanners tan more frequently than males, males have far higher rates of tanning dependence and prefer to tan in locations other than a tanning salon, especially private homes. Legislation focused specifically on regulating tanning salons may have less impact on male tanners. Research is needed to inform interventions that target the unique tanning habits of men.

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Symposium 7B

THE “WHO, WHAT, WHERE, WHY AND HOW” OF INDOOR TANNING IN NON-SALON VENUES

Dr. Lori A. Crane, PhD, MPH

BACKGROUND: Indoor UV tanning is a carcinogen that has been linked to melanoma. Tanning in non-salon venues is not well understood, and could increase skin cancer risk exposure. **METHODS:** An online survey of young adult (18-24 year old) frequent (>9 times a year) indoor tanners (N=339) was conducted in six cities diverse in geography, climate, and tanning regulation (Boston, MA; Pittsburgh, PA; Akron, OH; Austin, TX; Denver, CO; and Portland, OR). Respondents reported their tanning frequency, attitudes toward tanning, motivations for their choice of tanning location, the cost, and the safety practices at their main tanning location. **RESULTS:** Sixteen percent of respondents used a non-salon as their main tanning venue in the past year. Among those whose primary location was a salon, 66% used salons exclusively and 34% also used non-salons. Non-salon tanning was more prevalent among males and respondents from Portland, OR. Non-salon users were more likely than salon users to believe that indoor tanning protects from sunburns, is more convenient than tanning outside, lifts spirits, and is relaxing. Non-salon tanners had fewer friends who tan and were less likely to tan with friends (all p<.05). The most common non-salon venues for tanning were gyms and apartment complexes. The availability of other services and being a chain business were important in the choice of a non-salon tanning venue; quality of equipment, availability of tanning products, getting a recommendation from someone, and the presence of knowledgeable employees were less important for these tanners (all p<.05). Non-salon users were less likely than salon users to: be required to check in with someone before tanning (68% vs. 97%, p<.001); have their skin type assessed (47% vs. 73%, p<.001); be required to wear goggles (64% vs. 73%, p=.22); and pay a fee for indoor tanning (34% vs. 93%, p<.001). Tanning frequency did not differ between salon and non-salon tanners. **CONCLUSIONS:** Among frequent tanners, non-salon venues are a common location for tanning, and those who choose a non-salon venue report different priorities and benefits of tanning. Compared to salons, non-salon venues have operating practices that may result in greater risk. Results suggest that regulatory agencies should increase oversight of non-salon tanning venues.

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Symposium 7C

EXPLORING PATTERNS OF NON-SALON INDOOR TANNING BEHAVIORS USING A PERSON CENTERED APPROACH

Dr. Joel Hillhouse, Ph.D.

Non-salon indoor tanning (IT) is widespread with non-salon tanners reporting increased depression, tanning dependence, tanning to improve mood, lifetime tanning frequency and year round IT. Person-centered analytic approaches are able to identify distinct subgroups based on behavior patterns that can be compared on risk, beliefs and other relevant variables. This study aimed to identify subgroups within a national population of young adult (i.e., ≤ 40 years old) indoor tanners based on their pattern of using salon and non-salon tanning locations. They then examined subgroup differences in terms of past year IT frequency, tanning addiction, influences on their decision where to tan (e.g., cost, convenience, lack of regulation, cleanliness and professionalism) and beliefs about whether IT is harmful to the skin's appearance or causes skin cancer. Participants, (N = 385; 66% female, mean age = 28.8, sd = 5.92) young adult current indoor tanners, were recruited from a national online panel. We use latent class analysis to classify indoor tanners based upon their reported use of salon and non-salon (e.g., home, gym, beauty shop, etc) IT locations. Results indicated 5 subgroups: 1. Salon tanners who never use non-salon locations (51.9%), 2. Combination non-salon tanners use a variety of locations (e.g., home, gyms, beauty shops, etc) (11.4%), 3. Beauty shop only tanners (13.0%), 4. Gym only tanners (11.2%), and 5) Home only tanners (12.5%). Beauty shop only tanners report significantly more tanning sessions (mean = 22.7, se = 3.452) than salon only tanners (mean = 14.4, se = 1.296). Individuals using non-salon locations were more likely to be categorized as tanning addicted than salon-only tanners ($\chi^2(4) = 38.62, p = .00$). Home, beauty shop and combination compared to salon only tanners reported lack of regulations as more important in tanning decisions. Beauty shop only tanners were less likely than salon only tanners to believe IT can harm them. It is concerning non-salon tanners are more likely to be screened as tanning addicted and to report lack of regulations as an important motivator for choosing tanning locations. Results with beauty shop tanners indicates the potential utility of interventions focused on educating beauty shop workers.

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Symposium 8

8:15 AM-9:30 AM

BRIDGING THE DIGITAL DIVIDE IN HEALTH AND HEALTHCARE: CAN BEHAVIORAL MEDICINE HELP?

Bradford W. Hesse, PhD¹, Timothy Bickmore, PhD², Camille Nebeker, EdD, MS³, Michael C. Gibbons, MD, MPH⁴, Lila Finney Rutten, PhD, MPH⁵

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It is becoming clear that many facets of mainstream healthcare are going digital. As of April 2015, 95% of all eligible and critical access hospitals have demonstrated “meaningful use” of certified health information technology (HIT) on the in-patient side, while a little over a half (54%) of all US based office physicians have done the same on the out-patient side. National goals for adoption include better support for engaged patients, protections against clinical error, accelerated biomedical research processes, and better population health management. Nevertheless, problems remain for achieving these goals universally. Challenges of access, health literacy, language, and education are just some of the stresses that could widen the gaps between the digital “haves” and “have-nots,” termed by some as “the digital divide.” In this symposium, participants will get a first-hand view of behavioral science efforts aimed at bridging the rapidly shifting boundaries of the digital divide. Bradford Hesse will serve as the organizer and chair of the symposium. Timothy Bickmore will offer a snapshot of how innovation on the technology front can be used to undo some of the unanticipated obstacles introduced by text-heavy health-related websites for low literacy populations, in this case by utilizing advances in conversational agents to improve participation in clinical trials. Camille Nebeker will describe the pre-emptive results from a pilot study aimed at gauging the facilitators and barriers to using pervasive sensing and tracking devices within a sample of Latina, Somali, and Native Hawaiian / Pacific Islanders. To represent a policy perspective, we have invited Michael Christopher Gibbons, who serves as the “Chief Innovation Officer” at the Federal Communications Commission (FCC) to discuss plans underway within the Federal Government to address issues of inequitable access to digital information in health and medicine. Lila J. Rutten, chair of the newly formed SBM Population Health SIG, will serve as a discussant.

Symposium 8A

CONVERSATIONAL AGENTS ENABLE AUTOMATED HEALTH INTERVENTIONS FOR INDIVIDUALS WITH LOW HEALTH LITERACY

Prof. Timothy Bickmore, PhD

One third of US adults have low health literacy, the ability to obtain, read, and use healthcare information. These individuals also tend to have low computer literacy, and studies have shown that even the simplest conventional web interfaces for health education or behavior change are unusable by this population for finding health information. One area in which this has particular impact is for individuals searching for clinical trials they may want to participate in. Web-based clinical trial search engines that are intended to increase participation may actually be serving to increase the digital divide for low literacy users. I have re-cast the web-based search engine experience as an extended conversation with an animated agent, in which users are first interviewed about their requirements and preferences, then shown candidate trials, with the agent providing as much scaffolding—through tutorials, explanations and suggestions—along the way as possible. I am conducting a between subjects randomized experiment, comparing the agent to the web-based National Cancer Institute clinical trials search engine in a cohort of patients with cancer. Participants perform two search tasks: 1) searching for a trial for themselves; 2) search for a trial for someone else with specified eligibility criteria, as a standardized test. The study is ongoing, with 89 participants to date, 27% with low health literacy based on the REALM screener. Preliminary results indicate that all participants were more satisfied with the conversational interface and felt it found trials that were better quality matches compared to the conventional web form-based interface. Participants with low health literacy failed to find any trials that satisfied pre-specified criteria using the conventional search engine interface, while over a third were successful at this task using the conversational interface.

Symposium 8B

ADVANCING THE ETHICAL CONDUCT OF 21ST CENTURY RESEARCH: CONSIDERING CULTURE WHEN USING MOBILE IMAGING, PERVASIVE SENSING, SOCIAL MEDIA, AND LOCATION TRACKING (MISST) TECHNOLOGIES

Dr. Camille Nebeker, EdD, MS

We have entered an era where researchers collect data ‘on-the-fly,’ in real-time and, subsequently design potentially meaningful, personalized and adaptive health interventions. While the opportunities are amazing, standards to guide the responsible and ethical conduct of this research are lagging behind creating challenges for Institutional Review Boards (IRBs) and researchers alike. Recognizing that IRBs lacked sufficient evidence to inform appropriate risk/benefit assessment, often delaying approval of cutting-edge research, I initiated pilot studies in collaboration with researchers who utilize Mobile Imaging, pervasive Sensing, Social media, and location Tracking (MISST) technologies. The *MISST-Ethics* studies examined the informed consent process, assessment of risks/benefits and data management strategies. I will present results of our formative research specific to barriers and facilitators to uptake of health tracking and location logging technologies within Latino, Somali and Native Hawaiian Pacific Islander communities living in southern California. These three cultural groups report among the highest rates of obesity and may benefit from wearable technologies that translate the connection between physical activity and desired health outcomes. Collaborating faculty (co-authors) collected data on MISST barriers/facilitators from their respective study participants using survey (NHPI), interview (Latino) and focus group (Somali) methods. Results point to gaps in informed consent (i.e., research and technological literacy), threats to privacy and confidentiality, concerns about device safety and perceived risk to participants lacking legal documentation to live in the United States. Solutions focus on enhancing technological literacy among stakeholders and determining best practices for data security, including storage and sharing practices.

Symposium 8C

PERSPECTIVES FROM THE FEDERAL COMMUNICATIONS COMMISSION: THE “CONNECT2HEALTH” TASK FORCE

Dr. Michael C. Gibbons, MD, MPH

On March 4, 2014, the Federal Communications Commission (FCC) announced the formation of the “Connect2Health” Task Force. The “Commission’s top priority,” explained FCC Chairman Tom Wheeler, “must be to make networks work for everyone;” therefore, it was the Task Force’s mandate not just to investigate the use of advanced communication channels – such as broadband and mobile – on the behalf of medicine, but to “ensure that advanced health care solutions are readily accessible to all Americans, from rural and remote areas to underserved inner cities.” To provide a perspective from the FCC on bridging the Digital Divide through behavioral medicine, the organizing committee has invited Dr. Michael Christopher Gibbons to participate in the symposium. Previously, Dr. Gibbons served as the associate director of the Johns Hopkins Urban Health Institute, where he published scholarly papers and edited several multi-author volumes on the role of eHealth solutions in addressing health disparities. His systematic review of eHealth technologies, published in the inaugural issue of the *Journal of Translational Behavioral Medicine*, has been cited frequently as a reliable source of evidence on what works in eHealth. As a former academic, Dr. Gibbons’ goal will be to provide symposium attendees with a natural bridge between the evidence-generating engines of academia and the translationally focused demands of policy makers and the private sector. As a current director within the FCC, Dr. Gibbons will provide an invaluable perspective on the larger landscape of digital communications and how policy can be positioned to prevent unanticipated negative consequences for vulnerable populations.

Symposium 9

8:15 AM-9:30 AM

“PROMOTING PRACTICAL ADHERENCE INTERVENTIONS AT THE PATIENT, PROVIDER, AND SYSTEM LEVELS”

Michael J. Stirratt, PhD¹, Janet de Moor, PhD, MPH², Frank Treiber, PhD³, Deborah Jones, PhD⁴, Nitesh Choudhry, MD, PhD⁵

¹NIMH Division of AIDS Research, Bethesda, MD; ²National Cancer Institute, Bethesda, MD; ³Medical University of South Carolina, Charleston, SC; ⁴UNIVERSITY OF MIAMI, MIAMI, FL; ⁵Harvard Medical School, Boston, MA

This symposium will present state-of-the-art treatment adherence interventions that are delivered at the patient, provider, or healthcare system-level. Ecologic perspectives on treatment adherence recognize that medication-taking behavior is shaped by multi-level determinants. These determinants can include factors at the individual level (e.g., motivation and behavioral skills), the provider level (e.g., training and communication), and the systems level (e.g., insurance access and co-pay costs). A comprehensive approach to optimizing treatment adherence will therefore require combined interventions operating on multiple levels. This symposium will review practical, cutting-edge approaches to promoting adherence by intervening with patients, providers, and healthcare systems.

The symposium will feature presentations by the following three speakers, who will talk about adherence interventions for acute and chronic illnesses.

- Dr. Frank Treiber, PhD, Medical University of South Carolina will present, “mHealth Enabled Patient & Provider Centered Medical Regimen Adherence Solutions for Uncontrolled Hypertension” describing iterative design development to improve medication adherence and blood pressure control among individuals with uncontrolled hypertension.
- Deborah Jones PhD, University of Miami, will present, “Multilevel Patient and Provider Approach to Improving HIV Treatment Adherence,” examining data from a multi-level, randomized trial to improve medication adherence among patients not engaged and retained in HIV care.
- Nitesh Choudhry MD PhD, Harvard Medical School, will present “Healthcare System Approaches to Enhance Cardiovascular Medication Adherence,” exploring examples of health system adherence interventions that have recently been implemented in the United States.

The three presentations will be followed by a panel discussion with the three speakers. The discussion will address some of the major knowledge gaps that need to be addressed as well as the barriers and drivers to implementing multi-level interventions for medication adherence into clinical practice and community settings.

Symposium 9A

MHEALTH ENABLED PATIENT & PROVIDER CENTERED MEDICAL REGIMEN ADHERENCE SOLUTIONS FOR UNCONTROLLED HYPERTENSION

Frank Treiber, PhD

Medication nonadherence (MNA) impacts ~50% of patients, encompasses all chronic diseases and costs ~\$300 billion annually. Traditional measures of MNA (e.g., pill counting, urine/blood assays, direct observation) are often inaccurate and/or cost prohibitive. Various technology-enabled devices and systems have emerged (e.g., phone apps, electronic pill tracking and reminder devices, video processing systems, ingestible sensors) to address the problem. Unfortunately, many are not associated with robust enhanced medication adherence (MA) in empirical trials, not linked to biofunctioning relevant to the medications, cause side effects and/or are remain cost prohibitive. Studies have found these systems were often not developed using patient and provider centered iterative design and lacked tactics to facilitate sustained motivation to correctly engage in the clinical regimen.

This presentation will provide an overview of a patient/provider centered, theory guided, iterative design process of a mHealth enabled medical regimen self management system. This process included key informant interviews and focus groups with patients and healthcare providers, which guided development of the prototype. Subsequently, usability and acceptance of the system was tested using cognitive walkthroughs and heuristic evaluations and refinements through a series of formative usability testing in the lab and field. Subsequent large group survey/demonstration studies followed to integrate patients' recommendations for further system refinement. Three 3 to 6 month feasibility trials were conducted with different patient groups, all with uncontrolled hypertension (HTN) (i.e., FQHC HTN patients, kidney transplant recipients, post stroke patients). Overall findings are promising demonstrating high acceptability and adherence to the protocols, 95-100% MA, large BP reductions, and 65-100% JNC designated BP control compared to far lower outcomes in standard care (SC) patient. Our research has shown that use of tailored motivational and social reinforcement feedback linked with real-time medication adherence measurement, biofunction data and provision of tailored health care provider summary reports, provides a user friendly, efficacious system.

Symposium 9B

A MULTILEVEL PATIENT AND PROVIDER APPROACH TO IMPROVING HIV TREATMENT ADHERENCE

Deborah Jones, PhD

Treatment engagement, adherence and retention in care are necessary to achieve viral suppression and maximize health outcomes. This pilot study examined challenging patients, those not engaged and retained in HIV care, in public and private clinics in Buenos Aires, Argentina. Using a full factorial design, the impact of patient and provider interventions were compared separately and collectively. In Phase 1, participants prescribed antiretrovirals, non-adherent and not retained in treatment in the prior 3 to 6 months were enrolled (n = 60) and randomized to one of two conditions, patient intervention or standard of care (SOC). Patients were assessed on viral load, adherence, knowledge, self-efficacy, depression and treatment motivation over 12 months. In Phase 2, providers were trained in Motivational Interviewing techniques and an additional 60 challenging patients were randomized to patient intervention or patient SOC condition. Patients in the Phase 2 provider intervention condition reported improved and sustained adherence and viral suppression at 6 and 12 months in comparison with those in Phase 1, provider SOC. Phase 2 patients at both sites reported sustained improvement in patient-provider communication, the patient-provider relationship and perception of the provider as an active participant in the relationship. Though participant adherence in the patient intervention improved at midpoint, it returned to baseline at 12 months post-enrollment. The combination of both interventions did not have the greatest cumulative impact. Study outcomes suggest that training providers in MI, to a more patient-centered approach, may have a sustained impact on patient adherence and viral suppression among challenging patients. Clinical trials of more generalizable clinics and provider and patient populations should be used to examine the potential of patient-centered, provider-based interventions to achieve long term adherence and optimal health outcomes. This study was funded by a grant from NIH/NIMH, R34MH097609.

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Symposium 9C

HEALTHCARE SYSTEM APPROACHES TO ENHANCE CARDIOVASCULAR MEDICATION ADHERENCE

Dr. Nitesh Choudhry, MD, PhD

Although the evidence-base of effective interventions to address adherence and persistence has continued to grow, rates of non-adherence continue to be remarkably high. Most of these interventions have focused on engaging, educating, motivating, or easing medication taking within the confines of typical healthcare encounters (i.e. during interactions between patients and physicians, pharmacists or other providers). They have also generally been conducted in geographically localized areas and have targeted patients based upon factors that are observable in clinical settings (for example, poor disease control or high medication burden).

An alternative focus of adherence intervention is the “healthcare system” – that is the alteration of health insurance or delivery to facilitate or motivate medication taking. Adding these strategies to the list of potential adherence solutions offers distinct advantages. First, health system interventions directly address factors, such as cost, the complexities of medication refilling and the appearance of pills, which can't otherwise be addressed. Second, partnering with insurance providers and delivery systems to evaluate these interventions facilitates their ultimate implementation, as these are the organizations that will be responsible for sustaining them. In contrast, few single center interventions, even if highly effective, are widely adopted. Third, system interventions frequently rely on routinely collected administrative and other health data to target subjects and to assess outcomes, thereby providing additional efficiencies.

In this lecture, I will provide examples of health system adherence interventions that have recently been implemented in the U.S. and will describe some of the unique logistical and methodological challenges inherent in their conduct.

Symposium 10

8:15 AM-9:30 AM

IF THE BODY SAYS “YES,” DOES THE BRAIN SAY “NO”? NEUROCOGNITIVE PERSPECTIVES ON RISKY SEXUAL BEHAVIOR AND DECISION MAKING.

Angela Bryan, PhD¹, Sarah W. Feldstein Ewing, PhD², H. Jonathon Rendina, PhD, MPH³, Casey K. Gardiner, AB¹, Margarita Lightfoot, PhD⁴, Sarah W. Feldstein Ewing, PhD²¹University of Colorado Boulder, Boulder, CO; ²Oregon Health & Science University, Portland, OR; ³Hunter College, CUNY, New York, NY; ⁴University of California, San Francisco, San Francisco, CA

Sexually transmitted infections (STIs) including the human immunodeficiency virus (HIV) are a source of morbidity and mortality for those who are sexually active. The CDC estimates that nearly 20 million new STIs occur in the U.S. every year, and that these infections account for almost \$16 billion in health care costs. Existing interventions to reduce risky sexual behavior are moderately effective, but much remains to be learned about how best to change behavior in this domain. This series of talks will present research on the emerging contributions of the study of neuroscience to our understanding of the underlying determinants of risky sexual behavior in very high risk populations. Gardiner will present on the association of brain activation measured using functional magnetic resonance imaging (fMRI) during a delay discounting task and risky sexual behavior among high risk adolescents. She finds that brain activity during easy and hard intertemporal choices differs between individuals who engage in a lesser versus greater frequency of risky sexual behavior, notably in regions associated with executive functions (e.g. dorsolateral prefrontal cortex), behavioral control (e.g., inferior frontal gyrus), and emotion (e.g., insula). Feldstein Ewing examines whether differences in regional brain volumes implicated in socio-emotional processing (e.g., amygdala, hippocampus, ventral striatum) measured via MRI were associated with condom use among high risk adolescents. She finds significant volume \times gender interactions, indicating that more frequent condom use is negatively correlated with amygdala and hippocampus volumes, but only among adolescent females. Rendina will present data from men-who-have-sex-with-men (MSM) showing that while a measure of decision making (the Iowa Gambling Task; IGT) does not have main effects on risky sex, it does moderate the association between hypersexuality and serodiscordant CAS. The pattern suggests that better IGT performance buffers against the increased risk that hypersexuality generally confers. Taken together, these investigations highlight neurocognitive findings that may provide insight into how we might improve behavioral interventions to decrease risky sexual behavior among groups at risk for STI/HIV.

Symposium 10A

EXAMINING THE SOMATIC MARKER HYPOTHESIS IN RELATION TO THE INFLUENCE OF SEXUAL COMPULSIVITY AND AROUSAL ON SEXUAL BEHAVIOR

Dr. H. Jonathon Rendina, PhD, MPH

Background: The Iowa Gambling Task (IGT) was designed to measure individuals' ability to recognize and act on somatic cues regarding arousal and risk, with better performance indicating greater ability to make decisions based on somatic cues. We conducted a study among gay and bisexual men (GBM) to investigate the role of IGT performance on sexual behavior and whether it moderates the influence of individual-level sexual compulsivity (SC) and daily levels of sexual arousal on sexual engagement and condomless anal sex (CAS). **Method:** We enrolled 335 highly sexually active GBM who underwent neurocognitive testing, including the IGT, and completed online daily diaries for 30 days. We utilized mixed models to analyze the association between individual-level SC, day-level fluctuations in sexual arousal, and sexual behavior. Sexual behavior included whether or not men engaged in sexual behavior each day and, on sex days, whether or not they engaged in CAS. **Results:** Analyses showed that SC (AOR = 1.34, $p < 0.001$), daily increases in sexual arousal (AOR = 4.62, $p < 0.001$), and better IGT performance (AOR = 1.12, $p = 0.03$) were associated with increased odds of sexual engagement and that better IGT performance diminished the impact of SC (AOR = 0.86, $p = 0.05$) and heightened the impact of arousal (AOR = 1.16, $p = 0.02$) on sexual engagement. On sex days, SC (AOR = 1.27, $p = 0.03$) and arousal (AOR = 1.35, $p < 0.001$) increased the odds of CAS and better IGT performance (AOR = 1.35, $p = 0.01$) increased the influence of SC on CAS. **Conclusions:** These findings suggest that ability to recognize and act on somatic cues was associated with higher likelihood of sex on a given day but not associated with CAS on sex days. Better IGT performance appeared to mitigate the impact of SC on sexual engagement on a given day but increased its influence on CAS among sex days. Moreover, better IGT performance increased the influence of sexual arousal on sexual engagement. These findings suggest a complex interplay of risk-reducing and risk-enhancing roles of somatic markers on sexual behavior.

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Symposium 10B

ASSOCIATIONS BETWEEN RISKY SEXUAL BEHAVIOR AND NEURAL ACTIVITY DURING INTERTEMPORAL CHOICE DECISIONS

Casey K. Gardiner, AB

Delay discounting, or the propensity to choose smaller, immediate rewards over larger, delayed rewards, is associated with numerous behavioral outcomes that are detrimental to health and wellbeing, including alcohol use, cigarette use, gambling, and overeating. To date, little research has explored relationships between delay discounting and risky sexual behavior, which, like these other behaviors, entails the pursuit of an immediate reward (i.e., sexual intercourse) at the expense of a future health consequence (i.e., risk of HIV or other STIs). Given that youth under the age of 25 are at increased risk for STIs, the present study examines this relationship in a sample of 121 high-risk adolescents, who underwent functional magnetic resonance imaging to determine the neural correlates of intertemporal choices that are associated with maladaptive behavior.

Participants completed a delay discounting task while undergoing functional magnetic resonance imaging (fMRI) to measure neural activity. Choices were tailored to be either easy or hard based upon the subject's personal delay discounting propensity. Additionally, participants completed self-report measures of various behaviors, including frequency of intercourse and condom use.

The results indicate that participants' risky sexual behavior was associated with different patterns of activity in key brain regions when making these decisions. For example, in comparing hard to easy intertemporal choices, individuals who engage in less risky sexual behavior demonstrated greater recruitment of the insula [$t(119) = 3.90, p = .000$], a brain region associated with emotional processing that is thought to be critical to successfully delaying gratification, and the dorsolateral prefrontal cortex [$t(119) = 4.51, p = .000$], a region associated with executive functioning. Thus, more robust recruitment of these brain regions when considering difficult intertemporal choices may be associated with a better ability to control impulsive behaviors, including risky sexual behavior, that can lead to adverse health outcomes.

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Symposium 10C

BRAIN VOLUME AND ADOLESCENT RISKY SEX: DIFFERENCES BY GENDER

Dr. Sarah W. Feldstein Ewing, PhD

Adolescence is characterized by emergent physical changes, and related development of decision-making skills in the context of intercourse. These novel cognitions influence decision-making around sex (e.g., whether to have sex), and related protective efforts (e.g., whether to use protection). Relatedly, data in both developmental neuroscience and social psychology underscore that the brain develops at different rates for young males and females, and further, that young girls and boys approach sexual decision-making in different ways. We therefore sought to explicitly examine whether and how brain structure (volume) differs for young girls and boys in sexual decision-making. Specifically, we hypothesized that youth with better protective efforts (more condom use) would show differences in regional brain volumes implicated in socio-emotional processing (e.g., amygdala, hippocampus, ventral striatum). We also used an exploratory evaluation to see whether/how these relationships compared by gender. In terms of research methods, we used Freesurfer to extract subcortical volumes among a sample of 116 sexually-experienced youth [M age 16.03 years (SD 1.18) range = 14–17; 28.8% female]. We conducted multiple linear regressions to examine the relationship between frequency of condom use and subcortical volumes, as well as the interactions between volume and gender. We found significant volume \times gender interactions, indicating that better (more frequent) condom use was negatively correlated with amygdala and hippocampus volumes, but only among adolescent females. We found no relationship between regional brain volume and condom use for adolescent males. These data highlight the potential relevance of limbic and striatal structures in socio-emotional processing in decision-making about safer sex behavior for adolescent females, and the relevance of examining these comparisons by gender.

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Symposium 11

8:15 AM-9:30 AM

CHRONIC CONDITION MANAGEMENT AND PREVENTION AMONG VETERANS

Jeffrey P. Haibach, PhD, MPH¹, Tannaz Moin, MD, MBA, MSHS², Samantha D. Outcalt, PhD, ABPP³, Robert D. Kerns, PhD⁴

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Among Veterans, there is a high prevalence of chronic health conditions and associated poor health-related behaviors. Veterans have also been found to have a higher likelihood than Non-Veterans to be overweight or obese, have arthritis, depressive disorders, anxiety disorders, cardiovascular disease, diabetes, and cancer as well as have a higher likelihood of cigarette smoking, lower physical activity, and heavy drinking, after adjusting for demographics. It is imperative that we further develop, implement, and evaluate strategies in continuous improvement to reduce the burden of chronic health conditions and promote positive health behavior among Veterans. This symposium will present research and quality improvement evaluation of interventions for chronic condition management and prevention among Veterans. The first presenter will discuss the evaluation of an online diabetes prevention program (DPP) for obese and overweight Veterans with pre-diabetes. The second presenter will discuss an RCT that compared the effectiveness of two treatment options for chronic low back pain, 1) pharmacotherapy, and 2) cognitive behavioral therapy (CBT) to promote self-management. The third presenter will discuss implementation and quality improvement evaluation of a chronic disease self-management program among Veterans and their family members or caregivers. The three presentations will be followed by discussion on treatment and prevention strategies among Veterans for chronic conditions including pharmacotherapy, health promotion, and behavioral health strategies such as psychotherapy and self-management.

Symposium 11A

QUALITY IMPROVEMENT EVALUATION OF A CHRONIC DISEASE SELF-MANAGEMENT PROGRAM AMONG VETERANS

Jeffrey P. Haibach, PhD, MPH

There is a high prevalence of chronic disease and poor health behaviors among Veterans. To help our Veterans better manage their chronic conditions and improve health behavior, the VA Pittsburgh Healthcare System partnered with AmeriCorps, Partners in Care Foundation, and Vintage Senior Services to implement the peer-led and evidence-based Stanford Chronic Disease Self-Management Program (CDSMP) for patients, their family, or caregivers. It is a 6-week course that meets once per week for 2.5 hours and is led by peer-leader instructors. This presentation will outline program implementation through VA Pittsburgh, including patient receptivity, satisfaction, and health behavior change during the 6-week program. Participants (n=37 program graduates) from across 8 Veteran peer-led classes conducted in January through September 2015 ranged in age from 31-69 years (Mean = 58.6) and were 83.8% Veterans, 75.7% male, 62.2% White/Caucasian, 32.4% Black/African-American, and 8.1% also identified as Hispanic/Latino. In self-report at the end of the last class, participants reported the program helped them make "positive changes" in the following health-related behaviors: nutrition (78.4% of participants), physical activity (64.9%), sleep (59.5%), medication adherence (59.5%), and working with healthcare provider (73.0%). When asked in the evaluation whether they would recommend the class to "a friend, family member, or fellow Veteran," 89.2% responded "Yes". Patient receptivity and satisfaction of the CDSMP at VAPHS was very positive. Given the solid evidence-base for CDSMP paired with the initial receptivity at VAPHS, this appears a beneficial program at VAPHS, showing promise to rank among the best.

Symposium 11B

COMPARING WEIGHT LOSS AND PARTICIPATION BY GENDER FOR A WEB-BASED DIABETES PREVENTION PROGRAM (DPP) FOR VETERANS

Dr. Tannaz Moin, MD, MBA, MSHS

Over 37% of US adults have prediabetes and one in five Veterans have type 2 diabetes. Thus, the VA National Center for Health Promotion and Disease Prevention and the VA Diabetes Quality Enhancement Research Initiative conducted a pragmatic implementation and evaluation of a Diabetes Prevention Program (DPP) for obese/overweight Veterans with prediabetes. This comparative effectiveness study of usual care for Veterans and a VA DPP intervention across 3 VA medical centers (VAMCs) later added a non-randomized arm of an Online VA DPP intervention. All 3 arms represent group-based, lifestyle interventions, with variations on several key elements, such as program intensity and delivery. Data on weight, participation and engagement were collected for all participants and qualitative interviews were conducted with a subset of participants. Among participants who completed at least one online DPP module (n=185 total, 64% male and 36% female), there were no significant differences in percent weight loss at 16 weeks by gender (male -5.1% vs female -4.5%, p=0.63). The average number of modules completed was similar across genders (male=13.5 vs. female=13.1, p=0.53), although fewer women than men completed all 16-weekly core modules (53.7% vs 70.3%, p<0.02). Qualitative interviews conducted with a subset of women participants (n=15) revealed seven broad themes highlighting facilitators and barriers to participation and engagement. While female participants felt the online program was a good fit for their perceived health needs and provided accountability, some program features, such as the lack of face-to-face interaction and logging of physical/dietary activities were deterrents. Our findings highlight the importance of aligning lifestyle interventions with patient needs and preferences, and opportunities to improve lifestyle intervention delivery for female participants, who often have significant barriers to participation and engagement in lifestyle interventions.

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Symposium 11C

THE CAMEO TRIAL: COMPARATIVE EFFECTIVENESS BETWEEN PHARMACOTHERAPY AND COGNITIVE BEHAVIORAL THERAPY FOR CHRONIC LOW BACK PAIN

Dr. Samantha D. Outcalt, PhD, ABPP

Chronic pain is a major public health problem, affecting more than 70 million Americans. It is a leading cause of disability among Veterans, resulting in substantial negative impact on millions of Veterans' lives. Musculoskeletal pain accounts for two-thirds of all primary care visits for pain, and chronic low back pain (CLBP) is the most prevalent, disabling, and costly type. Despite multiple treatment options for CLBP and evidence to support analgesic treatments and cognitive behavioral therapy, primary care settings have not routinely implemented these protocols for CLBP. Use of opioid analgesics has increased for many pain conditions, including CLBP, and many patients continue to experience severe, disabling pain despite opioid treatment; others report intolerable side effects from opioids. Primary care providers often struggle with opioid treatment decisions and worry about fostering prescription drug abuse and addiction. Given the controversies, struggles, and lack of convincing data for opioid use, we conducted a randomized clinical trial to compare pharmacological versus non-pharmacological treatments to improve the management of CLBP among Veterans. 261 Veterans with moderate to severe CLBP despite long-term opioid therapy were enrolled in Care Management for the Effective use of Opioids (CAMEO). Veterans were randomized into two groups: 128 participants received guideline-concordant opioid management coupled with algorithm-based co-analgesic treatment. 133 participants received cognitive behavioral therapy emphasizing pain coping and self-management. Average age was 57.9, most participants were men (92.3%), white (73.2%), married (53.3%), and had at least some college (62.1%). Average pain intensity on McGill was 24.1 (sd=9.1), mean score on Pain Catastrophizing Scale was 24.2 (sd=12.0), and depression and anxiety were in moderate ranges on PHQ-9 and GAD-7. There were no significant differences across groups at baseline. The primary aim was to compare the interventions' effects on pain intensity, function, and other pain relevant outcomes at 6 and 12 months. Longitudinal clinical outcomes will be presented along with implications for maximizing Veterans' success in pain self-management.

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Symposium 12

8:15 AM-9:30 AM

NULL FINDINGS: LESSONS LEARNED WHEN P>.05

Jennifer L. Huberty, PhD¹, Sherry Pagoto, PhD², Gary Bennett, PhD³, Eric Hekler, PhD¹¹Arizona State University, Phoenix, AZ; ²University of Massachusetts Medical School, Worcester, MA; ³Duke University, Raleigh, NC

Null findings are a common occurrence in behavioral medicine research. Given that significant findings are not only more valued by journals but also important to obtaining grant funding, researchers with null findings may feel pressure to abandon an area of inquiry for seemingly more fruitful paths. This can result in demoralization, wasted resources, and most of all missed opportunities to advance science. In this symposium, three researchers will present research with null findings and describe how they proceeded to use those findings in their research, including publications, and grant applications. Dr. Jennifer Huberty will discuss null findings of a national, text message intervention to improve physical activity in pregnant women informed by a year of formative data collection. She will discuss lessons learned and plans for her future in this area. Dr. Sherry Pagoto will discuss null findings in two preliminary research projects for weight management, one focused on testing a social media-delivered weight loss intervention and the other focused on a weight loss mobile app. She will talk about how these findings informed her approach of sequential mini-pilot tests of new interventions, with each mini-pilot informing the next. Dr. Gary Bennett will discuss his experiences with null findings on a digital health obesity intervention. He will address how the experience of null findings actually forced a pivot that opened a new, and much more promising area of inquiry. He will discuss strategies for normalizing the experience of “failure” in behavioral medicine research. Dr. Eric Hekler will be the discussant and share his insights on how agile science, which actively embraces rapid prototyping to attempt to “fail fast,” may increase the efficiency of research by emphasizing, initially, the testing of core assumptions about a construct to create strong prototypical examples for later testing and refinement via more advanced methods beyond the RCT. The purpose of the symposium is to facilitate a paradigm shift in thinking about null findings from a failure experience to one that is normative and beneficial to science.

Symposium 12A

ENCOURAGING PHYSICAL ACTIVITY IN PREGNANT WOMEN USING TEXT MESSAGES: LESSONS LEARNED

Jennifer L. Huberty, PhD

Less than 20% of pregnant women achieve physical activity (PA) recommendations and the majority is completely inactive by the end of the third trimester. Text messages (SMS) have emerged as a promising mechanism to deliver health behavior interventions with prompts, education, and/or feedback in real time. Text4baby (T4b) is a free, nation-wide, mobile health service that delivers health SMS to pregnant women and during the first year postpartum. The purpose of this study was to determine the effectiveness of an SMS intervention targeted for PA behavior to improve PA participation in pregnant women delivered via the T4b SMS platform. We conducted a stratified, 4-arm randomized controlled trial with participants assigned to one of four groups and stratified according to ethnicity: (a) *Standard* (three T4b SMS from the original content (original T4b content included only two PA SMS across entire pregnancy) per week (M,W,F) at noon); (b) *Plus One* (three SMS; two T4b and one PA per week (M,W,F) at noon); (c) *Plus Six* (seven SMS; one T4b and six PA per week (Su-Sa) at noon); and (d) *Plus Six Choice* (seven SMS; one T4b and six PA per week (Su-Sa) at the time of day they choose). SMS included links to websites. Daily PA was measured using the Fitbit device. Satisfaction was measured using a survey and brief, informal interviews. Main effects for time and time x study arm interactions were tested. Linear, quadratic, and cubic time parameterizations were included in all models. Eighty women (31.19 ± 5.05 yrs) completed the intervention. There were no significant differences in linear trajectories between the targeted SMS interventions and the standard T4b SMS content. Differences in quadratic trajectories were also not significant. SMS were enjoyable (60%), easy to understand (100%), and appropriate (86%). Most (92%) visited the websites within SMS and thought they were beneficial (67%). Interviews highlighted physical barriers (e.g. nausea, low back/pelvic pain) that limited PA despite the SMS as well as the desire for multi-level approaches (i.e., social support, goal setting). Using SMS for PA behavior during pregnancy is in its infancy. More research is warranted.

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Symposium 12B

HOW ONE LAB'S DIGITAL HEALTH APPROACHES TO WEIGHT MANAGEMENT FAILED FAST AND EARLY

Dr. Sherry Pagoto, PhD

Two studies with null findings will be discussed. In study 1, 10 participants with depression were enrolled into a 12 week weight loss intervention involving weekly visits and a private Twitter group. It was hypothesized that because patients with depression and obesity tend to lack social support, an online social network where they could interact in between visits would be both feasible and acceptable. Participants (n=10; 90% female) lost a mean of 2.3 lbs (sd=7.7, range = -19.2 to 8.2) or 1.2% (sd= 3.6%) of baseline weight. Only two (20%) participants lost clinically significant weight, while 40% were at the same weight as baseline, and 20% gained ≥1 pound. Three participants tweeted <10 times, 2 tweeted 2-3 times per week, and 5 tweeted on most days. Focus groups revealed barriers to the Twitter group including usability, feeling overwhelmed, discomfort engaging online, and limited internet access. This pilot was followed by 3 additional iterative small single-arm pilots where outcomes steadily improved as methodology was fine-tuned. In study 2, a weight loss app was designed to give users tailored expert-derived solutions to their diet and exercise challenges. The app was piloted as a companion to a 4-week weight loss intervention involving 4 visits with a counselor. While (n=5; 60% female) participants lost weight [mean=-4.5 lbs (sd=4.5)], app use was low. Participants looked for solutions to their challenges a mean of 4.8 times (sd=3.8), attempted a solution 1.8 times (sd=1.8), and scheduled a reminder 1.2 times (sd=2.2); none used the community function. Reasons for not using the app included bugs, lack of technical knowledge, not having phone during the day, and the desire for solutions that they hadn't already heard of. Findings were used to refine the app and inform the methodology of second pilot. Both studies are part of a pilot and feasibility framework in which series of single-arm small pilots are conducted, each an iteration of the next, as precursor to a fully powered randomized trial. This framework is an alternative to traditional methods in which a single two-arm randomized pilot feasibility trial precedes a fully powered randomized trial. Multiple opportunities to iterate in behavioral intervention development may be useful particularly when interventions involve technology.

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Symposium 12C

PLUMMET, PICKUP, PIVOT: USING FAILURE TO ADVANCE BEHAVIORAL MEDICINE RESEARCH

Gary Bennett, PhD

Failure is both commonplace and taboo in behavioral medicine research. Many view success and failure as existing on polar ends of a continuum, but this perspective arguably stifles innovation and might slow the field's progress. Using this thesis, the presentation will comprise several case examples of failure in trials of digital health treatments for obesity. The first example will describe failure in a feasibility trial of a mobile app for dietary change. Although initially successful in user testing, the app's later failure ultimately opened the door for a new model in disseminating an evidence-based dietary treatment. The second example will discuss a failure of a treatment to produce expected outcomes. Although the trial failed by traditional standards, it too forced reflection that opened a new area of research that later proved successful. For contrast, the presenter will conclude by offering a series of observations regarding the way that failure is considered in the digital health startup community. In that context, failure is accepted, embraced, and tolerated. He will argue that being open to failure can loosen constraints on creativity and engender an intellectual context that more rapidly produces high-impact innovations.

Symposium 13

8:15 AM-9:30 AM

SOCIOECONOMIC STATUS AND CANCER: HOW DOES IT WORK?

Deborah Bowen, PhD¹, Arnold L. Potosky, na², Felisa Gonzales, PhD³, Aimee James, PhD, MPH⁴¹University of Washington, Seattle, WA; ²Georgetown University Medical Center, Washington, DC; ³National Cancer Institute, Rockville, MD; ⁴Washington University in St Louis School of Medicine, St Louis, MO

Being poor (ie, having insufficient money to lead a healthy life) is an important cause of premature death and disability, and a major cause of health inequalities. There are clear relationships between wealth and health outcomes such as cardiovascular disease - the more wealth you have, the healthier you are likely to be. Evidence review shows marked social inequalities for the leading causes of death across the life course. Risk factors associated with premature mortality are also known to accumulate over time. A sizeable proportion of the burden of disease and premature death is therefore estimated to be a result of SES inequalities throughout the lifespan,

One poorly understood area of the relationship between SES and health is in cancer and cancer-related outcomes. The few findings to relate cancer outcomes to SES in the US are mixed, especially for nonWhite adults. Understanding the role of SES in cancer outcomes is critical to reducing disparities. It is possible, for example, that SES plays a more critical role in subsegments of the population; this needs further study. We propose a symposium to focus on possible mechanisms of SES in outcomes related to cancer incidence and survivorship. Dr. Gomez and colleagues will begin with data evaluating the effects of race/ethnicity, education, and medical discrimination on guideline-adherent breast cancer treatment, perceived quality of care, and quality of life in a population based sample of CA survivors. We will follow with data on the role of financial distress in symptoms and quality of life among cancer survivors, by Drs. Potosky and Jensen. Dr. James will present data on the role financial choices made in medication adherence and early detection behaviors among low SES residents of the St Louis area. We will close with data on the role of SES in obesity among Caucasian and Hispanic women, discussed by Dr. Bowen.

We will identify from these data novel ways of considering the role that SES plays in cancer prevention and survivorship. Our long term goal is to design interventions to reduce the negative effects of low SES on living with cancer.

Symposium 13A

HEALTHCARE-RELATED FINANCIAL DISTRESS IS ASSOCIATED WITH SYMPTOMS IN US ADULT CANCER SURVIVORS

Dr. Arnold L. Potosky

We evaluated the demographic and clinical factors associated with financial distress related to healthcare and the association of that distress with anxiety, depression, and fatigue. We studied 5,500 persons ages 21-84 diagnosed with one of 7 cancers between 6-13 months after initial diagnosis enrolled in a prior study validating PROMIS measures. Subjects completed mailed surveys that included a 4-item subscale on financial burden related to healthcare costs. We defined serious financial distress as having a score on this scale of greater than 65 (on a 0-100 sub-scale score). We used PROMIS to measure symptoms and function. We obtained clinical variables from cancer registries. We used 3 separate logistic regression models to assess the association of financial distress on each symptom controlling for all other demographic, social, and clinical variables. For each symptom we used a binary outcome with a t-score of 55 or greater (5 points above the U.S. population mean) as a measure of having clinically meaningful symptoms. In our cohort, 34%, 30%, and 41% reported having anxiety, depression, and fatigue, respectively. Higher financial distress was strongly associated with the following demographic factors: younger age at initial diagnosis, black or Hispanic race-ethnicity, and lower income (all $p < 0.001$). Higher financial distress was significantly associated with increased anxiety (OR=1.5, 95% CI 1.3-1.8), depression (OR=1.6, 95% CI 1.3-2.0), and fatigue (OR=1.7, 95% CI 1.4-2.1) after controlling for multiple other sociodemographic and clinical variables.

Conclusion: Financial distress related to healthcare is prevalent within the first year following a new cancer diagnosis, and occurs disproportionately among the most vulnerable subgroups. Financial distress is independently related to increased levels of psychological and physical symptoms in a heterogeneous study cohort with excellent generalizability to adult cancer survivors in the US healthcare system.

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Symposium 13B

DISPARITIES AND DISCRIMINATION IN BREAST CANCER CARE AND QUALITY OF LIFE

Dr. Felisa Gonzales, PhD

Introduction: We examine the effect of race/ethnicity, education (<BA or BA+), and medical discrimination on guideline-adherent breast cancer treatment, perceived quality of care (QoC), and quality of life (QoL). **Methods:** A telephone interview was administered to 536 Asian, Black, Hispanic and White women identified through the Greater Bay Area Cancer Registry ages 20+ who were diagnosed with a first invasive primary breast cancer between 2006 and 2009. We created a combined 8-category variable indicating educational levels for each race/ethnic group. Medical discrimination was calculated by summing responses from a validated 7-item scale and splitting into tertiles to indicate no, low, and moderate/high levels of discrimination. Receipt of guideline-adherent treatment was based on NCCN guidelines. Main effects for the combined race/education variable and perceived discrimination were identified using logistic regression models adjusted for a range of sociodemographic and tumor-specific factors. **Results:** Disparities across race/ethnicity/education groups were observed for QoC (Wald $\chi^2(7)=17.58$, $p=0.01$) and QoL (Wald $\chi^2(7)=23.32$, $p<0.01$) but not for receipt of guideline-adherent treatment (Wald $\chi^2(7)=10.46$, $p=0.16$). Specifically, college-educated Hispanics and Asians (<BA and BA+) reported significantly lower QoC than college-educated White women. Black and Asian women reported lower global QoL than college-educated White women. Discrimination was related to QoC (Wald $\chi^2(2)=59.97$, $p<0.0001$) and QoL (Wald $\chi^2(2)=6.98$, $p=0.03$) but not treatment (Wald $\chi^2(2)=2.56$, $p=0.28$). Women reporting any discrimination had lower odds of excellent QoC and women reporting moderate/high levels of discrimination had lower odds of excellent QoL, compared to women reporting no discrimination. **Conclusion:** Study results show the importance of the intersection between race/ethnicity, education, and discrimination on patient-reported breast cancer outcomes. Implications for future research are discussed.

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Symposium 13C

COSTS AND CONSEQUENCES: TRYING TO BALANCE AFFORDABILITY AND ADHERENCE

Aimee James, PhD, MPH

Adherence to healthcare recommendations such as screening tests or prescription medication is important for improving health outcomes. Cost is a commonly mentioned barrier to adherence. Low income populations have lower rates of adherence and growing disparities in outcomes. However, rarely does health behavior research capture or appreciate the complex relationship between cost, affordability, and healthcare utilization. Further, as a field we sometimes suggest that if patients simply knew more and understood the risk, they would find ways to be adherent and overcome perceived cost barriers. Some studies are starting to address the issue by acknowledging that patients may need assistance navigating other life challenges before addressing a healthcare issue. We synthesized findings across several of our studies related to cancer screening in low-income and under/uninsured populations to examine how people talked about cost and adherence. Data were drawn from cross-sectional surveys, focus groups and interviews, and a Photovoice study. We compared study findings to elicit cross-cutting themes, sometimes going back to original data for confirmation or further information. Cross-cutting themes included: (1) Beyond healthcare, people have trouble making ends meet. They report challenges affording food and housing and other essential needs. (2) People are making efforts to get healthcare even in their financial constraint. They described cost coping strategies to maximize what they could afford. (3) In calculating affordability of a single healthcare decision, people often consider the range of their current or anticipated healthcare experiences and expenses. They describe the challenge of "picking out" which medications or tests they could afford, putting off others, and "hoping" the trade-off was okay. (4) Individuals are aware of, and often worry about, the consequences of missed medications and screenings.

Examining the role of socioeconomic status and affordability of healthcare means extending the conversation deeper to shed light on the context of how people make healthcare affordable in their lives and how affordability affects healthcare choices and ultimately long term health and health disparities.

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Symposium 14

8:15 AM-9:30 AM

REDUCING CHILDHOOD OBESITY DISPARITIES: INSIGHTS FROM GLOBAL STRATEGIES TO ACHIEVE HEALTH EQUITY

Vivica I. Kraak, PhD, RD¹, Shiriki Kumanyika, PhD, MPH², Tim Lobstein, PhD³, Nicola Dawkins-Lyn, PhD, MPH⁴, Karabi Archarya, ScD, MHS⁵

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In recent years, the obesity rate among American children in several districts, cities, counties have leveled off or declined in the United States (U.S.). This symposium will provide an overview of changing trends in U.S. child, adolescent and adult overweight and obesity rates in relation to their socioeconomic position, gender and race or ethnicity. Panelists will discuss key themes to frame and address childhood obesity, such as the need to combine universal interventions that benefit the entire population with targeted efforts that will benefit those at greatest need. Panelists will also discuss insights from global examples that may help to eliminate health disparities and achieve health equity among U.S. populations disproportionately affected by obesity and diet-related non-communicable diseases. A case study will be presented on how the city of Philadelphia has reduced obesity rates among high-risk youth of color, and how these insights can be applied to other cities and contexts.

Symposium 14A

REDUCING CHILDHOOD OBESITY DISPARITIES: INSIGHTS FROM GLOBAL STRATEGIES TO ACHIEVE HEALTH EQUITY

Dr. Shiriki Kumanyika, PhD, MPH

Shiriki Kumanyika will follow-up on a presentation given for NCCOR's Connect & Explore webinar in July, providing a closer look at childhood obesity declines, disparities, and opportunities to reconsider the design and impact of policies and interventions.

Symposium 14B

REDUCING CHILDHOOD OBESITY DISPARITIES: INSIGHTS FROM GLOBAL STRATEGIES TO ACHIEVE HEALTH EQUITY

Dr. Tim Lobstein, PhD

Tim Lobstein will follow-up his presentation for NCCOR's Connect & Explore webinar in July, outlining the approaches taken in Europe to tackle health inequities and predict which intervention can reduce disparities.

Symposium 14C

REDUCING CHILDHOOD OBESITY DISPARITIES: INSIGHTS FROM GLOBAL STRATEGIES TO ACHIEVE HEALTH EQUITY

Nicola Dawkins-Lyn, PhD, MPH

This symposium is designed to provide an overview on the trends of obesity status by factors including socioeconomic status, as well as gender and racial and ethnic categories. Panelists will discuss relevance of various perspectives on solutions, as well as recent success that have been seen. A case study on Philadelphia will be examined, including a discussion of strategies implemented in this city that has experienced some success in reducing rates of childhood obesity among youth of color.

Symposium 15

8:15 AM-9:30 AM

DIVERSE APPROACHES AND TECHNIQUES FOR MOTIVATING QUIT ATTEMPTS IN SMOKERS WHO ARE NOT READY TO QUIT AND ASSISTING SMOKERS TO QUIT.

Alison J. Wearden, BSc, MSc, PhD¹, Belinda Borrelli, BA, MA, PhD², Christopher J. Armitage, BA(Hons), PhD, CPsychol³, Kiera Bartlett, BSc, MSc, PhD³

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While rates of smoking in both the US and the UK have declined over the past twenty years, smoking cessation rates have levelled off and it remains the case that the majority of smokers are not currently motivated to quit. In order to reduce the harm caused by smoking, it will therefore be necessary to reach, motivate, and engage with these “hard-to reach” smokers. The papers included in this symposium address the issue working with “hard-to-reach” smokers and “unmotivated smokers” in a number of different ways. First, Belinda Borrelli will present data from several studies which illustrate the importance of timing interventions to coincide with naturally occurring “teachable moments”, the value of providing personalized risk feedback to motivate change and the potential of technology based platforms for reaching unmotivated smokers. Kiera Bartlett's paper describes two studies conducted by our group that explore technology use in smokers who are not ready to quit. We conducted a large scale survey in the US and UK and found that technology use is high among smokers who are not motivated to quit, but that few had previous technology-assisted quit attempts. A subsequent focus group study suggested the value of embedding interventions in technology platforms in order and encouraging activities as approaches to motivate quitting. She will also describe how data from these studies informed logic models of a proposed intervention developed with a technology company. Finally, Chris Armitage's paper reports on one promising technique to help smokers who have already formed the intention to quit. It underlines the effectiveness of “if-then” action plans (or “implementation intentions”) in significantly reducing the number of cigarettes smoked, nicotine dependence and craving, and thereby significantly increasing successful quit attempts. He will discuss the value of using this technique in unmotivated/hard to reach smokers. The discussant, Alison Wearden will summarize the issues arising from the papers, drawing out what they teach us about motivation to stop smoking in the context of theories of motivation more generally. She will conclude by outlining recommendations for future research.

Symposium 15A

MOTIVATING SMOKERS TO QUIT: THEORETICAL CONSTRUCTS, INTERVENTION COMPONENTS, AND TIMING MATTER.

Belinda Borrelli, BA, MA, PhD

The vast majority of current smokers do not want to quit. The paper will discuss methods of motivating smokers who are not motivated to quit. First, teachable moments (TM) are naturally occurring life transitions or health events that have the potential to motivate change due to greater receptivity to health risk messages during heightened health awareness. Interventions have been timed to coincide with the TM, accelerating change and reducing the need for intensive interventions. In one of the only prospective trials on TMs, we have shown that smokers undergoing a TM are more likely to achieve 30 day abstinence (OR=2.60, 95%CI = 1.22-5.54) than those who are not experiencing a TM, despite the fact that both groups received identical smoking cessation counseling. The TM effect was increased by greater intervention intensity (OR=3.60, 95% CI= 1.72-7.55). Second, provision of biomarker feedback motivates cessation, particularly when delivered with Motivational Interviewing (MI). We have shown in several studies that parents of children with asthma who receive personalized risk feedback on smoke exposure were more likely to quit than those who did not. These effects were maintained when disseminated through Head Start Programs. Medical patients who receive personalized risk feedback delivered with MI were more likely to be abstinent at a 12-month follow-up vs. those who received guidelines-based counseling (OR=2.0, 95% CI= 6-6.4). These studies have shown that precaution effectiveness, or the belief that quitting smoking will have a beneficial effect on one's health, may be a key theoretical variable to target when motivating smokers. Finally, our work has shown that smokers who are unmotivated to quit may not be a homogenous group, and can be divided into three discrete classes of unmotivated smokers. These classes have implications for treatment intervention and planning for smokers who are not motivated to quit.

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Symposium 15B

EVIDENCE THAT IMPLEMENTATION INTENTIONS CAN OVERCOME THE EFFECTS OF SMOKING HABITS

Professor Christopher J. Armitage, BA(Hons), PhD, CPsychol

Background. Cessation rates have plateaued and new approaches to encouraging smoking cessation are required. Emerging evidence suggests that implementation intentions (“if-then” plans) can encourage smokers to quit, but there is no research outside the laboratory that shows what mediates these effects. **Purpose.** This study aimed to test for the first time whether the effects of implementation intentions on smoking cessation are mediated through smoking habits (tendencies to act automatically in specific contexts). **Methods.** One hundred and sixty-eight smokers (mean = 33 years; 79 women, 89 men) were randomly allocated to form implementation intentions using volitional help sheets (Armitage, 2008), or to control conditions in which they were exposed to volitional help sheets but were not asked to form implementation intentions. **Results.** Smokers who formed implementation intentions were significantly more likely to quit than smokers in the control group, $c^2(1, N = 168) = 8.86, p < .01$. Mediation was tested formally using the bootstrapping procedures outlined in Preacher and Hayes (2008) showed that the effects of the intervention on smoking status was mediated by changes in smoking habits (95% CI = 0.02, 0.14). Similar effects were observed when cigarettes smoked per day, nicotine dependence, and craving served as the dependent variables. **Conclusions.** The findings demonstrate that implementation intentions can overcome habits and promote smoking cessation outside the laboratory. The supporting tools described in the present research could be deployed at low cost with high public health reach to support behavior change.

Symposium 15C

USING TECHNOLOGY TO ENGAGE SMOKERS WHO ARE NOT READY TO QUIT

Dr. Kiera Bartlett, BSc, MSc, PhD

Many smokers report that they would like to quit, but are not planning to make a quit attempt in the next month. We used quantitative and qualitative approaches to explore the potential of technology to engage smokers who are not ready to quit. We recruited 500 (57% female, 250 from the US, 250 from the UK) smokers who were not planning to quit in the next 30 days to complete an online survey. We found the majority used phones or tablets regularly to text, access social media and download applications (apps). While only 13.4% had used technology (the internet, text messages, apps, Twitter or Facebook) to assist a past quit attempt, 44.2% reported they would be willing to use at least one of these platforms for future quit attempts. Those willing to use technology were younger than those not willing ($M = 45.05$ vs. $M = 54.37, t(498) = 7.77, p = .001, 44\%$ female). Verbatim transcripts were analysed thematically using Nvivo software. Key findings were: 1) the majority of participants were ambivalent towards their smoking and wanted interventions that could improve their intrinsic motivation, 2) interventions need to be customized in terms of interests and current motivation to quit and 3) engaging smokers in activities that are incompatible with smoking might help break the habit and be of interest to smokers who do not want to quit. These findings informed logic models of a proposed intervention program. Wireframe designs (visual guides showing page and navigation layouts) were then developed in collaboration with a technology company. The findings from these two studies indicate technology has the potential to reach and engage smokers who are not ready to quit.

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Symposium 16

8:15 AM-9:30 AM

IMPACTS OF BINGE EATING ON HEALTH: AN UPDATE ON ASSESSMENT, TREATMENT OUTCOMES, AND POTENTIAL MECHANISMS

Mindy L. McEntee, M.S.¹, Lindsey Dorfingler, PhD², Adrienne Juarascio, Ph.D.³, Niloofar Afari, PhD⁴

¹University of New Mexico, Albuquerque, NM; ²VA Connecticut Healthcare System, West Haven, CT; ³Drexel University, Philadelphia, PA; ⁴University of CA, San Diego & VA Center of Excellence for Stress and Mental Health, La Jolla, CA

Binge eating is reliably associated with significant mental health difficulties, serious medical issues, impaired functioning, and reduced quality of life. Research on this topic continues to grow alongside the rise of obesity rates and formal inclusion of Binge Eating Disorder (BED) in the DSM-V, yet the extent to which best practices for the assessment and treatment of other eating disorders translate to binge eating remains unclear.

This symposium will address the topic of binge eating at a broad level by tackling the core issues of assessment, treatment, and mechanisms of effect. Across all speakers, the impact of binge eating on health and functioning will be addressed. Further, data on those with sub-threshold binge eating as well as those meeting criteria for a formal BED diagnosis will be discussed, as evidence suggests the former are perhaps as distressed as the latter. The first presenter, Ms. McEntee will discuss an evaluation of the factor structure and differential item functioning of the Binge Eating Scale across ethnic groups and in relation to patient distress. Next, Dr. Dorfingler will discuss treatment-related changes in dietary intake and weight loss among obese adults completing a six month course of cognitive-behavior therapy and dietary counseling for BED. As third presenter, Dr. Juarascio will describe the feasibility and preliminary efficacy of an acceptance-based behavioral group intervention for BED, including time effects for depression, quality of life, and eating pathology over the course of treatment. Finally, the discussant, Dr. Afari will provide a critical appraisal and synthesis of these data relative to the field as a whole, and comment on avenues of further study.

Symposium 16A

REVISITING THE BINGE EATING SCALE: FACTOR STRUCTURE, MEASUREMENT INVARIANCE, AND ASSOCIATED MEASURES OF FUNCTIONING

Mindy L. McEntee, M.S.

The Binge Eating Scale (BES) is one of the most widely used self-report measures assessing the severity of binge eating. Developed in a sample of obese adults, the BES has also been utilized as a treatment outcome measure and diagnostic screening tool. Because there is little information available on the psychometric properties of the BES, this study examined a single and two factor structure (cognitions and behavior) of the BES and crucially tested its measurement invariance in an ethnically diverse sample of 175 obese adults (79% female; 46% Hispanic) presenting for bariatric surgery evaluation. Mean BMI was 47.3 (SD=7.6) and 87% of the sample had at least one significant medical comorbidity (hypertension, chronic pain, diabetes, and/or sleep apnea) with 39% currently taking psychiatric medications. Distribution of BES scores was comparable to previous studies, with the 67% reporting minimal binge eating and 9% severe. Cronbach's alpha was acceptable for both a single ($\alpha=.86$) and two factor model ($\alpha=.78, .79$). Confirmatory factor analysis provided evidence of acceptable fit for both the one factor (RMSEA=.07, CFI=.94, TLI=.93) and two factor models (RMSEA=.06, CFI=.96, TLI=.95). Measurement invariance testing supported a two factor model for Hispanics and non-Hispanic Whites independently as well as at the configural, metric, and scalar levels (RMSEAs=.03-.07, CFIs=.95-.99, TLIs=.94-.99). Correlations among the one and two factor BES with measures of personality and psychiatric symptoms were significant for multiple forms of psychological distress, coping styles, and symptom severity. Regression loadings for the two factor model indicated cognition and behavior accounted for different levels of variance in these measures depending on the subscale of interest. Results support both the one and two factor BES and suggest further research should examine associations with the two factor structure and treatment outcomes.

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Symposium 16B

IMPACT OF BINGE EATING TREATMENT ON DIETARY INTAKE AMONG OBESE INDIVIDUALS WITH BINGE EATING DISORDER

Dr. Lindsey Dorfänger, PhD

Several interventions have demonstrated efficacy for producing high rates of abstinence for the treatment of Binge Eating Disorder (BED). However, studies investigating outcomes of binge eating treatment have consistently produced minimal to no change, even among those who are obese and become binge abstinent. It is unclear how marked improvements in binge eating do not translate into weight loss, and dietary assessments have not been conducted in treatment studies with this clinical population. Thus, the present study sought to examine changes in dietary intake among individuals who were obese and undergoing treatment for BED.

Fifty adult patients with BED (mean age 45.8 years, mean BMI 39.1, 76% female, 80% Caucasian) received six-month treatments using a combination of cognitive-behavioral therapy (CBT) and dietary counseling. Trained interviewers conducted two 24-hour dietary recall interviews on randomly selected days at baseline and again at six-months; these interviews collect highly detailed information and have been shown to be superior to data collected via daily food intake diaries. Paired samples *t*-tests were conducted to examine changes in weight and dietary intake from pre- to post-treatment. Mixed ANOVAs were conducted to examine differences in pre-post changes by binge remission status at follow-up.

Participants had an average decrease of 1 BMI unit over the six month period, and significant reductions in caloric (mean = 1095.87 kcal) and macronutrient (fat, protein, and carbohydrate) intake. A decrease in binge episodes was significantly associated with decreases in dietary fat ($r = -0.40$, $p = 0.017$) but not with other macronutrient or overall caloric intake. There were no significant differences in macronutrient intake or overall caloric intake between those who were, and were not, binge abstinent at the end of treatment. Changes in macronutrient and caloric intake were also not associated with change in BMI.

Findings suggest that reductions in dietary fat, rather than protein, carbohydrate, or overall caloric intake, may play an important role in reducing or eliminating binge episodes among patients undergoing treatment for BED.

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Symposium 16C

FEASIBILITY AND PRELIMINARY EFFICACY OF AN ACCEPTANCE-BASED BEHAVIORAL GROUP TREATMENT FOR BINGE EATING DISORDER

Dr. Adrienne Juarascio, Ph.D.

Although there exist effective treatments for binge eating disorder (BED), room for improvement remains. The goal of the current study is to examine the feasibility and acceptability of an Acceptance-based Behavioral Treatment (ABBT) for BED in a small open trial and to assess preliminary outcomes. Participants ($n = 19$) were all women between the ages of 20–63 ($M = 38.26$; $SD = 14.41$), with an average BMI of 32.80 ($SD = 8.97$). Participants reported high acceptability of the treatment program both on self-report measures (e.g. 70.5% of indicated that they were “mostly” or “completely” satisfied with the treatment) and in post-treatment interviews, and post-treatment retention rates were high at 89.4%. Results from generalized linear multilevel modeling revealed significant fixed linear effects of time on depression, quality of life, and global eating pathology, and binge frequency (all $ps < .05$). Quadratic effects of time on depression and global eating pathology were also detected; global ED symptoms therefore appeared to improve rapidly from baseline to mid-treatment, and continued to improve toward end-of-treatment and follow-up, but at a slower rate. Significant quadratic and cubic time effects were present for binge frequency, which was consistent with patient outcomes: binge frequency decreased rapidly from pre- to mid-treatment, but was followed by a slight increase in binge frequency at post-treatment. However, at follow-up binge frequency was once again reduced to a low level. Improvements in experiential acceptance were strongly and consistently related to decreases in overall eating pathology across several measures ($rs = .35-.54$). Additionally, greater perceived access to emotion regulation strategies was strongly related to decreases in overall eating pathology ($r = .67$). Preliminary results support the feasibility, acceptability, and efficacy of this novel treatment approach and indicate that additional research on ABBT for BED is warranted.

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Symposium 17

8:15 AM-9:30 AM

AFFECT AND COGNITION IN HEALTH DECISION MAKING: THE NATURE AND COMPLEXITY OF THEIR RELATIONS AND EFFECTS ON HEALTH DECISIONS

Marc T. Kiviniemi, PhD¹, Erin M. Ellis, MPH, PhD², Jennifer L. Moss, PhD³, Marissa G. Hall, MSPH⁴, William Klein, PhD³

¹University at Buffalo, SUNY, Buffalo, NY; ²National Cancer Institute, Silver Spring, MD; ³National Cancer Institute, Rockville, MD; ⁴University of North Carolina, Chapel Hill, NC

Historically, theory and research in health decision making has focused primarily on cognitive influences on health decisions — perceptions of benefits of and barriers to engaging in a preventive behavior, beliefs about risk associated with health problems, knowledge about health issues, etc. More recently, the role of affective influences on decision making has received increased research attention. However, all too often affective and cognitive influences are looked at in isolation from one another, either examined separately in different streams of research, treated as two separate systems, or as two separate main effect influences on behavior.

In this symposium, sponsored by the Health Decision Making special interest group, we focus on theory and research examining the complexity of ways that affect and cognition intersect and work in concert to influence health decisions. The symposium begins with a brief overview of affect and cognition as influences on health decisions and a working framework for considering the complexity of facets of affect, types of cognitions, and different possible intersections of the two. Next, addressing the complexity of facets of affect, Speaker 1 will present work examining how both implicit and explicit affective associations with condoms influence safer sex behavior and the implications of their effects on behavior for understanding the relation between feelings and beliefs as drivers of behavior. Next, Speaker 2 will address the complexity of the interplay of affect and cognition as drivers of behavior in a study exploring the temporal sequencing of affective and cognitive effects on decisions about HPV vaccination. Then, Speaker 3 will address the importance of understanding affective and cognitive influences on responses to behavior change messages in a study exploring affective and cognitive components of smokers' reactance to cigarette warning labels. Finally, the Discussant will synthesize connections between the three talks and consider their implications for both theory and intervention development in health decision making.

Symposium 17A

A DUAL PROCESS PERSPECTIVE ON THE AFFECTIVE INPUTS TO DECISION MAKING

Dr. Erin M. Ellis, MPH, PhD

Background: Dual process theories often link implicit/automatic and explicit/deliberative processing with affect and cognition respectively. However, affect itself may exist at an implicit and explicit level. The behavioral affective associations model posits that feelings are proximal predictors of health behaviors. Given the possible dual implicit/explicit nature of affect, this study examined whether affective associations with condoms operate at both implicit and explicit levels to influence condom use. To test whether implicit and explicit affective associations were separate and distinct, we examined whether they were differently moderated by two factors related to the perceived controllability of condom use (perceived behavioral control and a history of getting lost in the heat of the moment). Method: Sexually active young adults ($N = 54$) completed measures of implicit and explicit affective associations with condoms, perceived behavioral control, and whether they attributed their prior unprotected sex to getting lost in the heat of the moment. They then reported sexual activity and condom use daily for 30 days. Results: Moderation analyses using GEE models revealed a dissociation between effects of implicit and explicit affective associations; only implicit affective associations predicted condom use among participants who had gotten lost in the heat of the moment, $RR = 4.18$, $p = .014$, 95% CI (1.34, 13.11), and who had low perceived behavioral control, $RR = 2.26$, $p = .003$, 95% CI (1.32, 3.87). Only explicit affective associations predicted condom use among participants without a history of getting lost in the heat of the moment, $RR = 1.47$, $p = .003$, 95% CI (1.14, 1.88), and who had high perceived behavioral control, $RR = 1.39$, $p = .006$, 95% CI (1.10, 1.75). Conclusion: The observed dissociation pattern demonstrates that implicit and explicit affective associations are separate influences on health behavior, and that different mechanisms may account for their influence.

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Symposium 17B

DECISION MAKING ABOUT HUMAN PAPILLOMAVIRUS (HPV) VACCINATION: THE ROLES OF FEELINGS AND THOUGHTS

Dr. Jennifer L. Moss, PhD

Background. Models of decision making differ in their predictions about the temporal roles of affect and cognition in motivating health behaviors. Some models (e.g., behavioral affective associations) propose that cognitions elicit affective responses, which then motivate behaviors. In contrast, other models (e.g., affect as information) suggest that affect precedes cognitions. We sought to experimentally test whether affect precedes or follows cognitions in motivating parents to seek human papillomavirus (HPV) vaccination for their sons. **Methods.** Survey participants were a national sample of 304 parents of unvaccinated adolescent boys. Using a mixed factorial design, the 2 x 2 experiment manipulated disease type (cancer-only versus mixed diseases [genital warts and cancer]) and number of diseases (1 versus 2) occurring among their sons. Outcomes were cognition (perceived severity of named diseases), affect (fear of named diseases: the “five Ds of cancer”: disability, disruption, disfigurement, dependence, and death), and willingness to get their sons HPV vaccine. **Results.** HPV vaccination willingness, perceived severity, and fear were higher for two than for one disease (all $p < .01$), but these relationships only held true in the mixed diseases condition and not the cancer-only condition (interaction $p < .05$ for all outcomes). Analyses found serial mediation: disease characteristics interacted to increase fear, which increased perceived severity, which in turn increased HPV vaccination willingness (mediated effect = -0.05, 95% confidence interval = -0.09, -0.02; $p < .05$). **Conclusions.** Study findings suggest that affect preceded cognition in decisions about HPV vaccination. Communication campaigns promoting HPV vaccination may be more effective at engaging parents (i.e., promoting affective and cognitive responses and increasing vaccination willingness) if they discuss genital warts and cancer rather than cancer alone, regardless of whether they discuss cancer at multiple sites.

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Symposium 17C

REACTANCE TO HEALTH WARNINGS: THE ROLE OF AFFECT AND COGNITION

Ms. Marissa G. Hall, MSPH

BACKGROUND. Theorists suggest that reactance – the motivation to resist a perceived threat to freedom – is an amalgam of anger and negative cognitions. Reactance undermines receptivity to health warnings, making assessment of this construct critical during the message development process. We developed and validated a short scale that captures both the affective and cognitive components of reactance, in the context of cigarette pack warnings. **METHODS.** The trial randomized ~1,900 adult smokers to receive pictorial or text-only warnings applied to their cigarette packs for four weeks. Our previously developed 27-item Reactance to Health Warnings Scale has strong psychometric properties, but may be too lengthy for researchers to routinely use in practice. Thus, we developed a short version of the reactance scale, using theoretical and empirical criteria, to specify 3 items for an affective factor (anger) and 3 items for a cognitive factor (threat to freedom). We assessed reactance at baseline, week 1 follow-up, and week 4 follow-up. **RESULTS.** Confirmatory factor analysis revealed that the two-factor conceptualization of reactance, separating anger and threat to freedom, fit the data well (RMSEA=.05, CFI=.99). The anger and threat to freedom subscales demonstrated good internal consistency (α =.85 and .70) and high test-retest reliability at four weeks (r =.55 and .57). Both subscales correlated positively with trait reactance and positive smoker prototypes ($p < .05$), supporting the measures' convergent validity. Anger and threat to freedom predicted avoiding the warning (mean OR=1.77 and 1.28, $p < .001$). Most importantly, both subscales predicted being less motivated to quit smoking (mean OR =.89 and .67, $p < .05$). **CONCLUSIONS.** The short form of the Reactance to Health Warnings Scale exhibited strong psychometric properties. Predictive validity analyses revealed that both subscales were associated with greater avoidance of the warnings and lower motivation to quit smoking, providing new evidence that both the affective and cognitive aspects of reactance could weaken the beneficial effects of warnings. The scale could serve as an efficient adjunct to message development in tobacco control and other areas of public health.

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Thursday
March 31, 2016
11:00 AM-12:00 PM

Panel Discussion 1

11:00 AM-12:00 PM

UNCLE SAM WANTS YOU TO GET AN NIH TRAINING GRANT: EVERYTHING YOU NEED TO KNOW ABOUT APPLYING FOR PRE-DOCTORAL GRANT FUNDING

Stephanie Manasse, M.S.¹, Evan Forman, Ph.D.¹, Nancy Sherwood, PhD², Scherezade K. Mama, DrPH³, Jessica F. Magidson, PhD⁴

¹Drexel University, Philadelphia, PA; ²HealthPartners Institute for Education and Research, Bloomington, MN, MN; ³The Pennsylvania State University, University Park, PA; ⁴Massachusetts General Hospital/Harvard Medical School, Boston, MA

Pre-doctoral grant funding from the National Institutes of Health (e.g., Ruth L. Kirschstein National Research Service Award; F31s) can set the stage for a productive research career by providing rich training experiences, giving the recipient the independence necessary to conduct high-impact research, and demonstrating recipient's potential to obtain future NIH funding. However, such funding is difficult to secure, and in-depth guidance for students and mentors in the application process is limited and vague. This panel will focus on topics of interest for those who may be interested in applying for or serving as a mentor on applications for pre-doctoral NIH funding. Session panelists include those who have successfully attained NIH pre-doctoral funding (including F31s and dissertation awards across NIMH, NIDA, and NINR), served as mentors for NIH pre-doctoral training fellowships, and reviewed NIH training fellowship applications. Panel members will take questions from the audience throughout the presentation and for the last 10 minutes. Topics include:

- 1) Considerations regarding the decision to apply for pre-doctoral funding (e.g., timing, pros and cons, enhancing competitiveness)
- 2) The grant writing process (e.g., integrating research and training plans, putting together a mentorship team, discussion of examples of funded proposals)
- 3) The review process (e.g., scoring criteria, characteristics of good applications from a reviewer perspective)
- 4) Successful mentorship of training fellowship applications (e.g., how to be an effective mentor during the process)

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Panel Discussion 2

11:00 AM–12:00 PM

GRADUATE STUDENT RESEARCH PANEL DISCUSSION

Barbara Stetson, Ph.D.¹, Georita Frierson, Ph.D.², Ashley K. Day, PhD³, Jamie Bodenlos, Ph.D.⁴

¹University of Louisville, Louisville, KY; ²Rowan University, Glassboro, NJ; ³Rutgers, The State University of New Jersey, New Brunswick, NJ; ⁴Hobart and William Smith Colleges, Geneva, NY

The Graduate Student Research Panel is a regular feature of the ETCD Council's programming during the Annual Meeting. Faculty with experience in mentoring students in research activities, theses, and dissertations will provide advice and answer questions for attendees on a variety of topics. Although the structure of the panel is deliberately flexible to allow panel attendees' questions to determine the content, panelists will make opening remarks and be prepared to discuss several aspects of conducting research and developing a research program as a graduate student or post-doctoral trainees. These topics will include but are not limited to the following: choosing a research topic and mentor; designing a project of appropriate scope for your graduate program; working productively with your mentor and committee; managing writing time effectively; balancing coursework, research, and clinical demands; dealing with disagreements within the lab or with your mentor; understanding authorship issues; and identifying funding opportunities for pre- and post-doctoral training. Other topics as raised by panel attendees will also be discussed.

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Panel Discussion 3

11:00 AM–12:00 PM

THE NUTS AND BOLTS OF BITS AND BYTES: A RESEARCHER'S PRIMER ON WORKING WITH TECHNOLOGISTS TO BUILD EFFECTIVE AND FUNDABLE PROJECTS

J. Graham Thomas, PhD¹, Jon Moon, PhD, FTOS², Adam Hoover, PhD³, Wendy Nilsen, PhD⁴, Carly Michelle. Goldstein, PhD⁵

¹Alpert Medical School of Brown University & The Miriam Hospital, Providence, RI; ²MEI Research, Edina, MN; ³Clemson University, Clemson, SC; ⁴National Science Foundation, Arlington, VA; ⁵Alpert Medical School of Brown University/The Miriam Hospital Weight Control and Diabetes Research Center, Providence, RI

Behavioral medicine is in the midst of a revolution catalyzed by advances in digital health technology. Researchers are eager to capitalize on these advances, but face challenges related to identifying and collaborating with technologists, combining technology with established theories and principles of behavior change, and securing funding for development and testing. This panel will feature brief presentations and a moderated discussion with a team composed of: 1) A behavioral researcher with a record of collaboration with technologists and NIH funding to develop and test technologies for behavioral measurement and intervention incorporating mobile devices, software applications, and virtual reality technology; 2) A technologist with expertise in mobile applications and analytics who has collaborated with numerous academic researchers on NIH-funded projects to measure and intervene on health behaviors; 3) A technologist with expertise in mobile sensing who has begun to collaborate with researchers on clinical applications; and 4) A behavioral scientist with years of experience supporting funding initiatives at NIH and NSF to foster collaborations between behavioral researchers and technologists. The aim of this panel is to provide instruction and examples for successful collaboration between behavioral scientists and technologists to produce effective and fundable projects.

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Panel Discussion 4

11:00 AM–12:00 PM

STRATEGIES FOR INTEGRATING WEARABLE TECHNOLOGIES INTO BEHAVIOR CHANGE INTERVENTIONS

Mathew J. Gregoski, PhD, MS¹, Eric Hekler, PhD², Matthew Buman, PhD³, Aaron Coleman⁴, Praduman Jain, BS, MS⁵

¹Medical University of South Carolina, Charleston, SC; ²Arizona State University, Phoenix, AZ; ³Arizona State University, Phoenix, AZ; ⁴Fitabase, San Diego, CA; ⁵Vibrent Health, Fairfax, VA

There is a strong and growing interest in understanding the best methods for integrating consumer- and research-grade wearable technologies into behavior science research and clinical practice. As technologies continue to evolve, new opportunities are emerging where wearable technologies can be harnessed for better measurement of health behaviors and more tailored and effective behavior change strategies. The mass adoption of Fitness trackers like Fitbit have created a new option for distributed remote objective data capture. This panel discussion will cover the latest validation of popular wearable technologies and a framework for integrating wearable sensors into behavioral science will be discussed. Provide practical guide and questions to ask when evaluating if a new mHealth device is right for your study.

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Panel Discussion 5

11:00 AM–12:00 PM

OPENNES, INTEGRITY, AND REPRODUCIBILITY: A FRANK DISCUSSION ABOUT HOW TO GET THERE

Melissa Riddle, PhD¹, Wendy Weber, ND, PhD, MPH², Michelle Culp, BSN, MPH³, Courtney Soderberg, PhD⁴

¹National Institute of Dental and Craniofacial Research, NIH, Bethesda, MD; ²National Center for Complementary and Integrative Health (NCCIH), NIH, Bethesda, MD; ³National Center for Advancing Translational Science, NIH, Bethesda, MD; ⁴Center for Open Science, Charlottesville, VA

The Center for Open Science is guided by a mission that reflects the ideals of many behavioral and social scientists: fostering "the openness, integrity, and reproducibility of scientific research". While most scientists would agree that good science should follow these principles, developing standards and systems to achieve these principles presents challenges. The purpose of the proposed panel is to generate discussion about the challenges—and possible solutions—to developing standards and systems for the planning, conduct, oversight, and sharing of behavioral clinical research.

The panel discussion will begin with a context-setting introduction to the topic. Drs. Weber and Riddle will give a brief overview of the standards and systems currently in place at NIH that guide clinical research activities, and describe examples of how different NIH institutes meet those standards and use those systems. The introduction will pose several questions, to be addressed by panel members and session attendees during the discussion. These questions are:

1. Do the current standards produce science that is open, has integrity, and is reproducible?
2. Are there changes that would get us closer to these goals?
3. How can barriers to achieve these goals be overcome?

The two substantive panel presentations will address these questions from different perspectives. Panel presenter 1 is Dr. Courtney Soderberg, of the Center for Open Science. Dr. Soderberg will describe COS-led initiatives to facilitate replication studies, and to improve the reproducibility of behavioral science studies. Panel presenter 2 is Michelle Culp, of the National Center for Advancing Translational Research (NCATS), National Institutes of Health. Michelle will describe her work advising the NIH Office of Science Policy on new standards for planning and oversight of clinical research.

The presentations will be followed by a discussion and question-and-answer session, facilitated by Drs. Weber and Riddle.

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Panel Discussion 6

11:00 AM-12:00 PM

USING SOCIAL MEDIA FOR HEALTH PROMOTION AMONG U.S. LATINOS

Amelie Ramirez, DrPH¹, Rosalie P. Aguilar, M.S.², Cliff Despres³, Carlos Valenzuela, BA⁴, Kip Gallion, ma⁵

¹University of Health Science Center of San Antonio, San Antonio, TX; ²Salud America! /UT Health Science Center at San Antonio, San Antonio, TX; ³University of Texas Health Science Center at San Antonio, San Antonio, TX; ⁴University of Texas Health Science Center-San Antonio, San Antonio, TX; ⁵Univ. of Texas Health Science Center at San Antonio, San Antonio, TX

Using Social Media for Health Promotion Among U.S. Latinos

BACKGROUND: Social media can be a powerful tool for researchers and practitioners to disseminate the latest news and research related to health. It can also offer a novel way of informing and engaging minorities like Latinos in media advocacy and solutions for health. U.S. Latinos comprise the fastest-growing segment of individuals acquiring mobile phones and also tend to be heavy users of social media. With Latinos facing a number of health disparities, novel ways of communicating health information and messages are needed. SaludToday, a social media campaign on Latino health, uses platforms such as Facebook, Twitter, YouTube, and Instagram to reach Latinos and increase demand for health content. **METHODS:** A SaludToday content curator develops between 2-3 blog posts on topics related to health equity, disparities and Latino childhood obesity, posts them daily, and shares them via social media. Behavioral journalism-based stories of role models who have driven healthy change (both written and videos) online petitions and campaigns are shared weekly. A social media advisory committee meets quarterly to provide insight on how social marketing and new media technology, such as Tweetchats, livestream videos, geotagging, and Facebook ads, can be used to recruit and reach new audiences. **RESULTS:** Since incorporating an aggressive social media component into its promotional efforts the campaign has expanded its social media following and impact significantly, including a 21.4% increase in Twitter followers in the past seven months, and a Tweetchat series with an average weekly impact of 8.8 million Twitter users. SaludToday, continues to experiment with new ways of engaging users, such as a live-streaming health show and geo-targeting messages. **CONCLUSION:** By using a combination of curated content, social marketing and fostering a community where users can learn, share, and interact with others, social media has the power to take online health promotion to the next level. Organizations should consider allocating specific resources to social media content and marketing for health promotional purposes.

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Panel Discussion 7

11:00 AM-12:00 PM

BEHAVIORAL HEALTH IN MILITARY VETERANS: CHALLENGES AND OPPORTUNITIES FOR HEALTH PROMOTION

Katherine S. Hall, PhD¹, Jaime M. Hughes, MPH, MSW², Jeffrey P. Haibach, PhD, MPH³, Christi S. Ulmer, PhD⁴

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Military Veterans have complex physical and mental health care needs, often associated with prior military service. They have high rates of co-occurring mental illness, substance use disorders, poor health behaviors, and chronic conditions including obesity, chronic pain, heart disease, and diabetes. Veterans also have poorer overall health and health behaviors compared to Non-Veterans despite being healthier upon entering military service than those who did not enter service. Until recently, the majority of health services research has focused on negative health behaviors and substance use disorders in this population, with much less attention paid to health-promoting behaviors. There is emerging evidence that promoting core health behaviors, including physical activity, a balanced diet, and proper sleep, can help reduce negative health behaviors, improve mood and health-related quality of life, and enhance chronic disease self-management. This panel of health researchers will discuss prevalence, co-occurrence, and interrelationships among health behaviors, mental health, and associated chronic health conditions. It will further delve into specific examples such as sleep problems and physical inactivity in Veterans, the role of individual characteristics (e.g., trauma exposure, gender, comorbidity) and long-term health trajectories, and associated programs and research in the Veterans Health Administration. This panel will highlight current challenges and opportunities for health promotion among Veterans.

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Panel Discussion 8

11:00 AM-12:00 PM

APPLYING SUCCESSFUL TOBACCO CONTROL STRATEGIES TO REDUCE INDOOR TANNING

Elliot J. Coups, PhD¹, Sherry Pagoto, PhD², Alan Geller, MPH³, Markham Luke, MD, PhD⁴, Cindy Tworek, PhD, MPH⁵

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As outlined in the 2014 U.S. Surgeon General's *Call to Action*, stemming the rising rates of skin cancer is a significant public health priority. Reducing rates of indoor tanning, now common among youth and young adults, and causing an estimated 400,000 skin cancers annually in the United States, is one key target for skin cancer prevention. Recently, policies enacted that may reduce indoor tanning have included federal taxation and reclassification of indoor tanning products (i.e., booths, beds, and UV lamps) as moderate-risk devices, and bans on indoor tanning under age 18 in 13 states and municipalities. However, systematic efforts to address diverse aspects of the indoor tanning problem are lacking. In contrast, a rich and decades-long history of policies and other strategies to reduce tobacco use exists in the United States. The comprehensive approach, with varied successes of tobacco legislation, is a playbook for reducing risk for other cancers. This timely panel session will address the potential for applying successful, evidence-based tobacco control strategies to reduce indoor tanning. The four panelists include: two behavioral scientists, with expertise in indoor tanning and tobacco control interventions, policies, legislation, and regulations; a scientist from the U.S. Food and Drug Administration's (FDA) Center for Devices and Radiological Health (which regulates indoor tanning products); and a scientist from the FDA Center for Tobacco Products (which regulates tobacco products). Facilitated by a moderator, panelists will compare and contrast current indoor tanning and tobacco control policies, legislation, and regulations at the federal, state, and local levels. Topics will include: price regulation (e.g., taxation, minimum pricing laws); youth access; industry considerations; marketing strategies and restrictions; mass media campaigns, public health messaging and risk communication; harm reduction approaches; and enforcement/compliance with regulated products (indoor tanning, tobacco product labeling) and settings (e.g., commercial indoor tanning salons vs. non-commercial settings, tobacco advertising and promotion venues). A significant portion of the panel session will be dedicated to Q&A and discussion of future priorities.

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Panel Discussion 9

11:00 AM-12:00 PM

HOW BEHAVIORAL SCIENTISTS USING 21ST CENTURY RESEARCH TOOLS AND METHODS CAN INFORM AN ETHICAL LEARNING SYSTEM

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Over half a century ago, the United States government proposed a prospective review process of research involving human subjects in response to egregious ethical violations. This prospective review is what we know of today as the Institutional Review Board (IRB) system. IRBs are now firmly entrenched within the fabric of academic research institutions; however, its contribution to human research protections is in question. Specifically, the IRB system has not kept pace with the evolution of research and emergence of new tools and technologies. Even when taking into account the Notice of Proposed Rule Making (NPRM) that promises to "modernize, strengthen, and make more effective" the regulations governing human research protections, much more is needed to advance meaningful research ethics. We argue that, as currently designed, the IRB review may not result in adequate protection of research participants and, may be hindering the advancement of important research. During this panel, we will present new ethical challenges introduced by mobile Imaging, pervasive Sensing, Social media and location Tracking (MISST) technologies and offer recommendations to improve the ethical design of studies using MISST devices/apps. In addition, we will present ideas for advancing a research oversight that involves the design of an ethical learning system. A high level goal of this panel will be to generate ideas for how we, as a key stakeholder group, might collaborate to foster the ethical conduct of research in the changing landscape of 21st century science. Attendees will be encouraged to think critically about how the research review process can be remodeled and will have the opportunity to inform an emerging plan of ethical practices and participate as visionaries of an ethical learning system.

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Panel Discussion 10

11:00 AM-12:00 PM

ADAPTING MINDFULNESS-BASED INTERVENTIONS FOR MINORITY POPULATIONS

Amanda J. Shallcross, ND, MPH¹, Tanya Spruill, PhD², Rakale C. Quarells, PhD³¹New York University, School of Medicine, New York, NY; ²NYU School of Medicine, New York, NY; ³Morehouse School of Medicine, Atlanta, GA

Interest in mindfulness-based interventions (MBIs), both in research and in practice, has grown exponentially in recent years. Hundreds of scientific papers support the efficacy of MBIs for a range of conditions (e.g., depression, cancer, pain, heart disease). While this emerging phenomenon is promising, one troubling aspect of this research is that scientific studies of MBIs have nearly exclusively been conducted on predominately white patient populations. Thus, it is unclear whether the benefits of mindfulness extend to racial/ethnic minorities. This is particularly unfortunate because many of the conditions that are successfully treated by MBIs disproportionately affect Hispanics and Blacks vs. Whites.

This panel will synthesize the small literature base on what is currently known about adapting mindfulness interventions for racial/ethnic minorities while weaving together experience and insight from three scientists who are adapting MBIs for minority populations. Presenter #1 will discuss foundational principles and potential barriers to adapting MBIs for non-dominant cultures. She will specifically highlight her pilot work on adapting MBIs for the Black community, the etymological role of the word mindfulness in addition to the influence of constructs such as religion, locus of control, cultural identity, and stigma. Presenter #2 will review lessons learned from her investigation to adapt and tailor UPLIFT (Using Practice and Learning to Increase Favorable Thoughts) for Hispanic patients with epilepsy and depression. Presenter #3 will discuss her experience adapting and tailoring the UPLIFT intervention for black patients with epilepsy and depression.

Through this panel, we hope to foster an exciting discussion among the panelists and attendees about important theoretical, practical, and cultural considerations to adapting MBIs in order to ensure that mindfulness-based approaches are appropriate and relevant for all individuals who could benefit from them, regardless of their racial/ethnic identity.

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Thursday
March 31, 2016
12:00 PM-1:00 PM

N001

12:00 PM-1:00 PM

HEALTH STATUS IN FAMILIAL CAREGIVERS OF WOMEN WITH BREAST CANCER: SOCIO-DEMOGRAPHIC, CAREGIVING AND PSYCHOLOGICAL CORRELATES

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Research has demonstrated that informal caregivers are at heightened risk for decrements in health, even years after the caregiving episode. Yet, few studies have documented the health status of familial caregivers within the context of breast cancer patients. This study sought to determine the current health status (measured with a single question item asking participants to rate their overall health) and correlates of health status with caregiving (Care Task Scale), total mental distress (POMS-SF), symptoms of depression (CES-D), parameters of health of the recipient of care (cancer activity, whether the cancer spread, additional medical diagnosis) and socio-demographic factors (age, employment, length of time since their relative's diagnosis, relationship to cancer patient, years of formal education, marital status and income level) among women with histories of being a primary caregiver for a first-degree female relative with breast cancer. Adult women (N = 48) who were mostly White, married and highly educated completed questionnaires in a prospective study. The majority of the study sample rated their current health status as good. Correlational analysis revealed income to be significantly and positively associated with current health status, such that women with higher incomes reported better health. Markers of the health status of the caregiving recipient (Metastasis, an additional medical diagnosis) were associated with the health status of the familial caregiver. This sample reported low levels of psychological distress and, psychological and caregiving factors were not associated with health status, possibly due to limited variance in measurement scores. Findings lend support for further exploration of the unique contributions income and health indicators of caregiving recipients on the long-term health status of familial caregivers.

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N002

12:00 PM-1:00 PM

ACTIVE LIFESTYLE, ADIPOSITY AND HEALTH IN RURAL COMMUNITIES

Aristides Machado-Rodrigues, IPV-ESEV¹, Manuel Coelho-e-Silva, UC², Luis Ribeiro, ua³, Rômulo Fernandes, SSU⁴, Jorge Mota, UP⁵¹Instituto Politecnico de Viseu - Escola Superior de Educação de Viseu, Viseu, N/A, Portugal; ²University of Coimbra, Coimbra, N/A, Portugal; ³University of Algarve, Faro, N/A, Portugal; ⁴São Paulo State University, Presidente Prudente, N/A, Brazil; ⁵University of Porto, Porto, N/A, Portugal

Background: Rural areas, with relatively low population densities, are characterized by socioeconomic and educational inequities that can impact on health of youth. On the other hand, physically active behaviours occur in contexts that differ between urban and rural settings, and available research dealing with adolescent lifestyle of rural communities is rather limited. Therefore, the purpose of this study was twofold: i) to assess the proportion of rural adolescents that met the guidelines of moderate-to-vigorous physical activity (>60 min/day of MVPA); and ii) to analyse the association between MVPA and the central fat mass of those rural youth. **Methods:** The sample included 254 students (114 boys, 140 girls), 13-16 years of age, from rural regions of the Portuguese midlands. Height, weight, and waist circumference (WC) were measured. An uniaxial GT1M accelerometer was used to obtain five consecutive days of physically activity (PA) and sedentary behaviour. Logistic regression analyses were used to test associations between MVPA and CRF for males and females separately, and adjusted for several potential confounders (age, WC, and sedentary behaviour). **Results:** Findings revealed low percentages of active adolescents who met the international PA guideline - about 33% of the males and 24% of the females. After controlling for confounders, inactive rural adolescents (<60 min/day of MVPA) were more likely to have higher WC than their active counterparts (males: OR=0.94, 95% CI 0.89 to 0.99, p=0.04; females: OR=1.09, 95% CI 1.03 to 1.15, p=0.01). Inspection of the final regression model also indicated that girls classified as inactive were more likely to be involved in sedentary activities than their active peers. **Conclusion:** The findings indicate majority of both males and females failed to meet the current guideline of 60 continuous MVPA per day. Furthermore, inactive rural adolescents were more likely to have higher central adiposity than their active counterparts.

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N003

12:00 PM-1:00 PM

EXAMINATION OF BULLYING HISTORY AMONG PARTICIPANTS IN AN INTERDISCIPLINARY REHABILITATION PROGRAM FOR PEDIATRIC PAIN

Ashley Junghans-Rutelonis, PhD¹, Julia Craner, PhD¹, Eric Emerling, BS¹, Kevin Curwick, BS², Karen Weiss, PhD¹¹Mayo Clinic, Rochester, MN; ²Mayo Clinic, Rochester, MN

Objective: Youth with chronic pain face behavioral and psychosocial stressors. Bullying is a prevalent stressor (Greco et al., 2007) and may be relevant in adjustment of youth with chronic pain (Gatchel, Mayer, & Theodore, 2006). The current study examined the prevalence of bullying in youth participating in an interdisciplinary rehabilitation program for pediatric pain and associated demographic psychological, and illness variables. Given the limited research in this area, the study was exploratory in nature. **Methods:** Participants were 192 youth ages 12-22 (M = 16.02, SD = 2.13). Most were female (74%) and Caucasian (89.6%). Average years of pain duration was 3.28 (SD = 2.72). Participants were part of a 3-week program at a Midwestern Academic Medical Center who completed a battery of measures including the Functional Disability Inventory (FDI), the Center for Epidemiologic Studies Depression Scale (CESD), the Spence Children's Anxiety Scale (SCAS) or Chronic Pain Acceptance Questionnaire (CPAQ). History of bullying was obtained via review of medical records. **Results:** 20% of youth reported bullying. These youth reported experiencing significantly more pain frequency, suffering due to pain, and subjective sleep disturbance (all $p < .05$) than youth who did not report bullying. More females reported bullying than males ($p = .053$). No differences existed in prevalence of anxiety (16.4%) or depression (44.3%) diagnosed among groups but both were higher than average compared to known estimates among healthy peers. No differences were found in grade, type of education, ability to attend school, intent to return to school, life or medical care satisfaction, current use of narcotic pain medicine, work status, or FDI, CESD, SCAS or CPAQ scores. **Conclusions:** Results indicate bullying may be a factor in cognitive attributions and health behaviors related to pain. These findings are important due to the relations these variables have with overall functioning and in light of current concerns regarding bullying among adolescents, especially those with a chronic illness.

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N004

12:00 PM-1:00 PM

INSULIN RESISTANCE ASSESSED BY HOMA-IR AND ITS ASSOCIATION WITH SEDENTARY BEHAVIOUR IN FEMALE YOUTH

Aristides Machado-Rodrigues, IPV-ESEV¹, Manuel Coelho-e-Silva, UC², João João Valente-dos-Santos, UC³, Luís Paulo gomes. Mascarenhas, unicentro⁴, Rômulo Fernandes, SSU⁵, Margaret Boguszewski, FUP⁶, Neiva Leite, FUP⁷

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Background: One of the consequences of the paediatric obesity epidemic is thought to be an increased incidence of type 2 diabetes among youth worldwide. Thus, insulin resistance (IR) and related metabolic abnormalities are increasingly being described in pediatric populations, since it seems to be related to inactive lifestyles. Therefore, the present study aimed to examine the independent relationships between sedentary behaviour (SB) and insulin resistance in adolescents. **Methods:** The sample comprised 522 female adolescents aged 11–17 years. Height, weight, waist circumference (WC), fasting glucose, HDL-cholesterol, triglycerides, and blood pressure were measured. Body Mass Index (BMI) was calculated subsequently and participants were classified as normal weight or overweight/obese (Cole et al., 2000). Sedentary behaviour (i.e. TV viewing) was assessed by a three-day diary. Insulin resistance was expressed as the homeostasis model assessment score (HOMA-IR). Multiple linear regression was used to test associations between the insulin resistance and SB, adjusted for age, birth weight, and overall fat mass. **Results:** Time (min/day) spent sedentary was significantly and positively associated with insulin resistance (β -coefficient=0.001 [95% CI 0.001 to 0.002]; $p=0.001$), after adjustments for the afore-mentioned confounders. The final model also revealed a positive and significant association between the insulin resistance and the total fat mass ($p=0.004$). **Conclusion:** The present study revealed that SB is positive associated with insulin resistance independent of total and central fat mass in adolescents. Findings highlight the importance of decreasing SB and, therefore, create opportunities to active lifestyles among youth, which may have beneficial effects in the primary prevention of metabolic disorders at young age.

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N005

12:00 PM-1:00 PM

IS THERE A DIFFERENCE? MOTHER AND CHILD REPORTS OF PEDIATRIC QUALITY OF LIFE

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Discrepancies between parent and child reports of quality of life (QoL) are a consistent finding in clinical research. Some populations of parents and children reported similar views of QoL and are considered a reliable comparison. In general, parent-child agreement ranges from low to moderate when assessing QoL.

The Pediatric Quality of Life Inventory (PedsQL) is a suitable assessment of QoL. However, there are mixed findings about differences in parent and child reports. In community agencies, discrepancies can impact diagnosis and treatment planning. There is some clinical utility considering discrepancies in their relation to clinically meaningful variables (e.g., risky behaviors). The present study examined if children's reports differed from parents' reports of child's QoL.

Children and parents seeking outpatient therapy or psychoeducational testing at an urban community mental health clinic completed measures of psychosocial functioning. Children ($N=78$) 5 to 18 years old completed the PedsQL, and mothers completed a parent report of the PedsQL ($N=84$).

Results of a paired samples t-test showed no significant difference in mother and child reports of QoL ($t(71)=-.29, p>.10$). These findings indicate that parent perception of their child's functioning ($M=67.07, SD=16.71$) was relatively similar to the child's perception ($M=66.35, SD=16.70$). There were no significant differences between mother and child reports of emotional ($t(71)=-1.41, p>.10$), physical ($t(70)=-.62, p>.10$), school ($t(71)=.27, p>.10$), or social ($t(71)=-1.75, p=.09$) QoL.

Results showed that mothers' perceptions of their child's QoL, in comparison to the child's report, were not significantly different. It appears a single report of pediatric QoL may be reasonable if access to multiple sources is limited, despite multiple sources of information being desirable during the intake process. However, the results are difficult to interpret and may have occurred for many reasons (i.e., no real differences, low power). Future studies should continue to study informant discrepancies to contribute to the question of inconsistencies in the research.

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N006

12:00 PM-1:00 PM

SEXUAL VICTIMIZATION AS A PREDICTOR OF SEXUAL ASSERTIVENESS AND RELATIONSHIP QUALITY AMONG AT-RISK ADOLESCENT FEMALES

Janan Wyatt, MA¹, Danielle Hill, B.A.², Lyn Stein, PhD³, Molly Magill, Ph.D.⁴, Joseph S. Rossi, PhD⁵, Jennifer Clarke, M.D.⁶

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Previous literature suggests that sexual victimization can be detrimental to women's health and well-being. Women who have been sexually victimized are at higher risk for mental health concerns, low sexual assertiveness, or difficulties in intimate relationships. Few studies, however, have examined the underlying mechanisms of such risks. The purpose of this study was to investigate whether sexual victimization predicts sexual assertiveness and relationship quality. Additionally, the current study examined whether post-traumatic stress disorder (PTSD) and depression mediate these relationships. The participants ($N=179$) were recruited from social service agencies and were 18.9 years old on average ($SD = 1.88$). Participants were 37.2% White, 19.3% Black, 37.9% Multiracial, and 5.6% other. Regression and multiple mediation analyses were conducted to examine whether sexual victimization predicted sexual assertiveness and relationship quality and whether PTSD and depression mediated these associations. Results revealed that females who were sexually victimized reported being less satisfied with their intimate relationship ($R^2=.097, F(3,175) = 18.81, pb = -.0121$, [95% bias-corrected bootstrap confidence interval (BCa CI) = $-.286, -.001$]). Sexual victimization did not predict sexual assertiveness, however depression symptoms partially mediated the association between sexual victimization and sexual assertiveness, $b = -.0177$, [BCa CI = $-.522, -.004$]. The findings suggest that women who experience sexual victimization are less satisfied with their relationship and depressive symptoms may contribute to this effect. The results also suggest that depressive symptoms influence sexual assertiveness among adolescents who are sexually victimized. Prevention and intervention efforts can be informed by better understanding the impact sexual victimization has on adolescent female's sexual and mental health.

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N007

12:00 PM-1:00 PM

IS PERCEIVED STRESS A RISK FACTOR FOR HIGHER CORTISOL LEVELS AND GREATER INSULIN RESISTANCE IN ADULTS WITH TYPE 2 DIABETES?

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Objective: To determine if perceived stress is a risk factor for higher cortisol levels and greater insulin resistance in Type 2 diabetic individuals, using data from participants with and without diabetes in the National Survey of Midlife Development in the United States MIDUS II, Project 4 biomarker supplement. The following were tested: (Hyp.1a) greater perceived stress would be associated with higher cortisol for Type 2 diabetic participants, (Hyp.1b) the perceived stress/cortisol relationship would be stronger for those with Type 2 diabetes, (Hyp.2) greater perceived stress would be associated with higher Homeostatic Model Assessment-Insulin Resistance (HOMA-IR) for Type 2 diabetic participants, (Hyp.3a-i) subjective well-being would moderate the perceived stress/insulin resistance relationship for Type 2 diabetic participants and (ii) an interaction between perceived stress and subjective well-being would predict insulin resistance, (H3b-i) Depression would moderate the perceived stress/insulin resistance relationship for Type 2 diabetic participants and (ii) an interaction would occur between perceived stress and depression, predicting insulin resistance. **Method:** MIDUS, a longitudinal study of 7,000+ American adults, explores biopsychosocial factors that could contribute to variance in mental and physical health. Only complete data were used for diabetic ($n = 115$) and non-diabetic ($n = 1,097$) participants who ranged in age from 34 to 84 years. One-tailed partial correlations were conducted to test Hyp.1a and b, and Hyp.2. Linear multiple regression was conducted to test Hyp.3a & b. **Results:** None of the expected relationships were found to be significant. Not predicted, but found, waist to hip ratio was significantly related to insulin resistance ($r = .31, p = .001$), which is based in the underlying physiology of Type 2 diabetes. **Conclusions:** Perceived stress may not be a good predictor of biomarker outcomes. Future studies should collect information about the type and duration of stressors in addition to perceptions about stress for those with Type 2 diabetes.

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N008

12:00 PM-1:00 PM

THE IMPORTANCE OF PROVIDER-PATIENT COMMUNICATION IN ADHERENCE TO ANTIRETROVIRAL REGIMENS AMONG HIV+ OUTPATIENTS

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Adherence to prescribed antiretroviral therapy (ART) is a central feature in the clinical management of HIV, and there is considerable evidence for the importance of the provider-patient relationship in predicting good adherence outcomes. However, there has been little research on how this relationship relates to measures of intentional non-adherence, where patients knowingly choose to make alterations to their ART regimens. The present study sought to characterize the association of provider-patient communication to both global measures of adherence difficulties, as well as newly developed measures of intentional non-adherence. Men and women receiving outpatient HIV care ($N = 150$, 41.3% female, M age = 44) completed self-report measures of patient-provider communication, and a battery of items developed to assess intentional non-adherence across four domains: (a) treatment uptake; (b) treatment interruption; (c) medication vacation; and (d) medication changes. Contrary to predictions, there were no differences in global measures of adherence or intentional non-adherence as a function of the patient's evaluation of their provider on overall communication and participatory decision-making. Nor were there effects for provider satisfaction and trust on adherence. However, there was a significant association of treatment interruption to the patient's evaluation of their provider's ability to talk specifically about HIV ($r = -.224$, $p < .01$). Furthermore, the patient's evaluation of their provider's ability to talk about adherence was significantly associated with global measures of adherence, $t(1,148) = 3.67$, $p < .01$, and overall intentional non-adherence ($r = -.384$, $p < .01$). Our findings confirm that provider interactions focusing on the importance of adherence are predictive of adherence outcomes, but general measures of provider trust, satisfaction, and patient engagement are not associated with good adherence. Study results affirm the importance of engaging patients in conversation about adherence.

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N009

12:00 PM-1:00 PM

MINDFULNESS AS A MEDIATOR OF BODY SHAPE CONCERN AND DISORDERED EATING BEFORE AND AFTER AN EXPOSURE INTERVENTION

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Eating disorders are associated with altered emotional processing and information processing biases. Mindfulness, a technique involving present moment awareness with an attitude of acceptance and non-judgment, reduces eating disorder symptoms; however, specific mechanisms as to how mindfulness impacts symptoms remain unknown.

In this study, no significant main effect of treatment was found, thus mediation analyses were conducted to test if mindfulness mediated the cross-sectional relationship between body shape concern and disordered eating attitudes. It was also expected that, following a brief mirror exposure activity, the mediating influence of mindfulness would be strengthened.

College women endorsing body concerns ($N = 41$; Body Mass Index $M = 25.5$) completed two in-person sessions. Participants completed questionnaires regarding eating attitudes, body shape concern, and state and trait mindfulness. Participants were then randomly assigned to one of two groups (mirror exposure alone [ME ; $n = 19$] or combined mindfulness meditation and mirror exposure [MME ; $n = 22$]) and completed brief interventions. Participants returned after one week to complete the same questionnaires.

Mediation was tested with body shape concern as the predictor, eating attitudes as the outcome and state and trait mindfulness as the mediators. At baseline, the non-judgment subscale of the trait mindfulness scale partially mediated the relationship between body shape and eating (no other subscales were significant mediators). At follow up, mediation analyses were non-significant. These results suggest that following a brief exposure intervention, the mediating relationship of mindfulness between body shape concern and disordered eating attitudes disappeared.

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N010

12:00 PM-1:00 PM

RACIAL/ETHNIC DIFFERENCES IN THE OBESITY-DEPRESSION LINK: CULTURAL FACTORS MAY CONTRIBUTE TO GROUP DIFFERENCES

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Obesity is often comorbid with depression among women; however, the strength of this relationship varies by race/ethnicity. According to sociocultural theory, women from different racial/ethnic groups may have distinct views on their body because of certain gender beliefs and values, which in turn may impact the likelihood for depression among obese women. While these differences have been investigated between White women and women of color, the differences among women of color have been less studied. The goal of this study was to: 1) test whether the obesity-depression relationship differs for African-American (AA) versus Latina women; and 2) identify potential culturally rooted factors (objectified body consciousness (OBC), strong woman ideals (SWI)) that might account for group differences.

Participants included 151 low-income AA and Latina mothers (Mean Age = 42) from a Northeastern city. Women had their height and weight taken; completed self-report measures, including the PHQ-9 for depression and OBC; and completed a q-sort on ideal female traits. Across the sample, the average BMI was 32.4 (56% obese) and 22% had elevated depressive symptoms. The relationship between obesity and depressive symptoms was significantly moderated by race in both regression analyses (with BMI as a continuous variable) and ANCOVA (with obese/not obese as a categorical variable), controlling for SES. Among Latinas, obese women reported significantly more depression than non-obese women (Mean = 7.7 vs. 4.5; 36% vs. 14% with elevated symptoms); there was no difference for obese and non-obese AA women (Mean = 5.6 vs. 5.5; 16% vs. 10% with elevated symptoms). Tests of moderated mediation indicated that for Latinas increasing BMI predicted more OBC, which in turn predicted more depressive symptoms. In contrast, increasing BMI did not predict OBC in AA women. Although AA women reported more SWI, this characteristic was not related to BMI or depression for either group.

Obesity and depression co-occur for many reasons. These findings highlight one path by which obesity may contribute to depressive symptoms among Latina women that may not occur among African-American women. Identifying cultural differences in risk processes can help develop tailored interventions.

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CITATION AND MERITORIOUS AWARD WINNER
N011

12:00 PM-1:00 PM

DIETARY GUIDANCE SYSTEM UTILIZATION AND DIETARY CHOICE AMONG AMERICAN ADULTS

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Background: National dietary guidance systems such as the Dietary Guidelines for Americans and the individualized MyPyramid Plan (MPP) direct Americans toward a healthy diet, and while adherence is thought to improve health outcomes, little is known about how effective these tools are in improving the diet of users. Therefore, the purpose of this study was to compare dietary intake of MPP users to non-users. **Methods:** Data from 2011-2012 NHANES survey were examined. Adult (>18 years) respondents ($n = 3,963$) who answered the question "Have you tried the MyPyramid Plan recommended for you?" were included in analyses. Differences in nutrient intake between users and non-users were investigated using a two-day nonconsecutive average of kilocalories (kcal), and total grams of protein, carbohydrate, fiber, fat, and saturated fat. T-tests were conducted in SPSS ($\alpha = 0.05$), while Pearson Correlations were used to examine relationships between MPP use and compliance with Acceptable Macronutrient Distribution Ranges (AMDR). **Results:** Crosstabulations indicated that women were 9.1% more likely to have tried the MPP than male counterparts, and non-Hispanic whites were 3.2% less likely to have used the MPP than other racial/ethnic groups. Approximately 23% of respondents reported using MPP. No significant differences were observed between MPP users and non-users for kcal ($p = 1.77$) or total grams of protein ($p = .33$), carbohydrate ($p = .28$), fiber ($p = .16$), and fat ($p = .07$). There was a significant difference in saturated fat intake between MPP users ($M = 19.30 \pm 10.89$) and non-users ($M = 20.49 \pm 14.17$) ($p = .03$). However, use of MPP was not significantly correlated with meeting the AMDR for saturated fat ($p = .59$). There was also no significant relationship between MPP use and meeting the AMDR for protein ($p = .75$), carbohydrate ($p = .60$), fiber ($p = .14$), or fat ($p = .12$). **Conclusions:** Few adults utilized the MPP tool, and users had little dietary distinction from non-users, indicating more attention should be paid to utilization of national dietary guidance systems. Health professionals should strive to further understand and describe characteristics of individuals who utilize dietary guidance systems as this will play an important role in the design and tailoring of future guidance.

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N012

12:00 PM-1:00 PM

THE ROLE OF PERCEIVED VARIETY IN MEAL SATISFACTION

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We have lab-based evidence that increasing awareness of the variety in one's diet reduces feelings of satiation and negative mood that follow from repeated exposure to monotonous foods. Those findings informed this intervention to determine the utility of increasing awareness of dietary variety on feelings of satiation after repeatedly consuming a food daily for 2 weeks. An aim of the current study was to determine the utility of this intervention for people that need to repeatedly consume product(s) due to medical needs, dietary restrictions, or restricted availability of other foods. Subjects ($n = 148$) attended an orientation at which they responded to baseline questionnaires, were randomly assigned to experimental or control conditions, and were trained on the study procedure. At the same time every morning over the 14-day intervention period, subjects ate a granola bar and then completed standardized measures of satiation and mood on their smartphone (once in the morning and again in the evening). Every second day, subjects in the control condition thought about the different musical artists they had listened to recently, whereas subjects assigned to the experimental condition thought about the different foods they had eaten recently. Every odd day in the study served as a within-subject control in which subjects neither recalled artists nor foods prior to eating and completing measures. As expected, subjects displayed a significant increase in satiation for the granola bars over time ($B = 0.14$, $CI = [0.11, 0.17]$). In line with our hypothesis, mean satiation was lower in the experimental condition for most treatment days (5 out of 7). However, a linear mixed-effects model revealed that while mean satiation of granola bars was less in the experimental condition than in control ($B = -0.08$, $CI = [-0.28, 0.13]$), the effect is not significant. Furthermore, the increase in satiation over time did not differ between the control (remembered music variety) and the intervention (remembered food variety) participants ($B = 0.001$, $CI = [-0.03, 0.03]$). This pattern of results is very similar for mood measures. Methodological lessons and challenges are discussed.

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N013

12:00 PM-1:00 PM

AN RCT EXAMINING WEIGHT LOSS AND MAINTENANCE OUTCOMES BETWEEN THE DIABETES PREVENTION PROGRAM AND A NOVEL WEIGHT LOSS APPROACH

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Behavioral weight loss programs (BWLPs) are generally considered the treatment of choice for mild to moderate obesity, given the relative ease of implementation and low risk to participants. The Diabetes Prevention Program (DPP) has long been considered the "gold standard" of BWLPs due to its success in reducing the incidence of diabetes and metabolic syndrome in adults. Most BWLPs involve some form of self-monitoring, the disruption of unhealthy habits, the implementation of new healthy habits, as well as an educational approach to nutrition and physical activity as its backbone. That said, there is considerable variability between and within various BWLPs. Beyond this, most participants regain some portion of their weight following the completion of their respective weight loss programs. Thus, Transform Your Life (TYL) was developed in an effort to increase weight loss, as well as the likelihood of maintenance following treatment. TYL features an increased focus on psychological principles of weight loss, as well as slightly updated nutritional information (i.e., a focus on increasing lean protein and whole grains, and reducing refined carbohydrates). The current study compared weight loss and maintenance outcomes between these two respective programs (TYL and DPP). Ninety-eight participants (TYL=51; DPP=47) were randomized into the two 16-week weight loss interventions. TYL produced comparable weight loss (DPP=17.0 lbs. vs TYL=14.4 lbs.) among participants. Furthermore, both programs also had similar maintenance, in terms of weight regain (DPP=3.6 lbs. vs. TYL=3.9 lbs.). TYL produces comparable outcomes to the "gold standard" of BWLPs and may be beneficial for those seeking a novel approach to weight loss.

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N014

12:00 PM-1:00 PM

ATTITUDES TOWARD HEALTHY LIVING IN OVERWEIGHT COLLEGE STUDENTS: ROLE OF LIFE OBLIGATIONS

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Physical activity and healthful eating are central to physical and mental health. Life obligations (e.g., employment and family support), however, can greatly hinder one's perceived behavioral control (PBC) over healthful behaviors, especially in young adults (Sørensen & Gill, 2008) and among those with a relatively high body mass index (BMI; Caperchione et al., 2008). The current analyses sought to assess the association between greater BMI and negative attitudes toward healthful eating and physical activity, to determine if life obligations moderate the relationship. The college sample ($N = 298$) was 78% female, ages 18-63 years old ($M = 20.39$), and 38.1% underrepresented minorities (URM). BMI was obtained through self-report of height and weight. Attitudes toward eating healthy and attitudes toward physical activity were each measured using five items that represented affective and cognitive attitudes (e.g., *In my opinion, eating healthier food is pleasant*). PBC was measured with seven items and five items that represented perceived difficulty and perceived control over engaging in eating healthy or being physically active, respectively (e.g., *I find it difficult to be more physically active when I am busy*). Family obligations were measured with eleven items (e.g., *Run errands that the family needs done*). Employment obligations reflected number of hours worked per week. Higher BMI was related to low positive attitudes toward eating healthy, $t(262) = -2.88$, $p = .004$, and approached significance in association to low PBC in eating healthy, $p = .096$, and low PBC over physical activity, $p = .062$. However, interactions between BMI and life obligations on our outcome variables were not significant, p 's > .05. While heavier-weight individuals perceived healthy habits as less desirable, or possibly more difficult, these attitudes were not affected by obligations to work and family in the lives of our college-aged sample. Further analyses will examine differences between URM and non-URM students. Clinical applications for reducing barriers to physical health will be discussed.

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N015

12:00 PM-1:00 PM

DEPRESSIVE SYMPTOMS MODERATE THE RELATIONSHIPS BETWEEN BMI AND THE IMPACT OF WEIGHT ON ADOLESCENT'S PERCEIVED QUALITY OF LIFE

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Background: The effects of obesity on children's health and wellbeing are still being identified. In particular, little is known about the factors associated with adolescents' perceptions of the impact of weight on their quality of life. **Purpose:** The purpose of this study was to explore the moderating role of depressive symptoms in the relationship between weight-related quality of life and body mass index (BMI) in overweight and obese middle school adolescents. **Methods:** 360 participants with BMI ≥ 20.0 were recruited from middle schools in a large urban city. BMI was calculated from height and weight measures obtained by trained, certified staff. Self-report of weight-related quality of life was measured using the Impact of Weight on Quality of Life (IWQOL-Kids) questionnaire that consists of a total score and 4 subscales: physical comfort, body esteem, social life, and family relations. Depressive symptoms were measured using the Center for Epidemiological Studies Depression Scale for Children (CESD-SC). The sample was predominantly African American (79.2%), aged 9-11 years, female (57.8%), and low income (35.8% had annual household incomes Results: Weight-related quality of life total scores were relatively high among this overweight/obese group ($M = 88.2$, $SD = 16.6$). There was a significant inverse relationship between BMI and weight-related quality of life ($r = -0.30$, $p = 0.00$) on the total IWQOL score. In the interaction analysis, using linear regression, there was a strong inverse relationship between the total IWQOL and the interaction variable of depressive symptoms and weight-related quality of life ($r = -0.60$, $p = 0.00$). There was also a significant relationship between the interaction term (depressive symptoms and weight-related quality of life) and BMI ($r = 0.37$, $p = 0.00$). **Conclusion:** Weight-related quality of life reported by overweight/obese urban middle schoolers is negatively associated with BMI. Depressive symptoms act as a moderator of this relationship. Interventions and programs aimed at reducing obesity should incorporate depression reduction strategies, as this has a potential to improve the quality of life of this vulnerable group.

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N016

12:00 PM-1:00 PM

DIFFERENCES IN RACE, GENDER, SOCIAL ISOLATION, AND FUNCTIONAL DEFICITS ON EATING BEHAVIORS AND BMI AMONG BARIATRIC CANDIDATES

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Bariatric surgery is an effective treatment option for the morbidly obese. Preoperative assessment of eating patterns and psychosocial factors is important for selecting appropriate patients and providing specific recommendations for successful long-term weight management. The purpose of this retrospective chart-review was to examine racial and gender differences, levels of social isolation, and the degree of functional deficits, as they relate to self-reported eating behaviors (i.e., large portion sizes, binge eating, and meal skipping) and body mass index (BMI) among bariatric candidates. Social isolation and functional deficits are two subscales from the Millon Behavioral Medicine Diagnostic (MBMD), a measure that assesses psychosocial factors among medical patients. A series of correlations and regression analyses were conducted on 48 bariatric surgery candidates (43.8% African American, 56.3% Caucasian; Mean age = 45.75 years; Mean BMI = 45.29). Disordered eating was not significantly correlated with BMI ($r = .12$, $p = .43$); however, the association between meal skipping and BMI was approaching significance ($r = -.24$, $p = .097$). Men and women did not differ on meal skipping ($p = .97$) and portion sizes did not differ between African-American women and Caucasian women ($p = .43$). Social isolation was not predictive of BMI, $F(1, 47) = .282$, $p = .60$. Finally, functional deficits did not predict BMI ($p = .077$) nor was this prediction moderated by age, $F(1, 47) = 1.213$, $p = .32$. While the findings were non-significant, the study aim was consistent with the literature. Limitations include insufficient power, lack of a diverse sample, and use of self-report measures. Further understanding of preoperative disordered eating behaviors and psychosocial factors is warranted and clinically relevant, as the identification of these indicators may help reduce the health and psychological consequences of obesity.

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N017

12:00 PM-1:00 PM

COGNITIVE BEHAVIORAL THERAPY DELIVERED IN PERSON TO TELEPHONE TO USUAL CARE FOR VETERANS WITH CHRONIC MULTISYMPTOM ILLNESS

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After combat, an estimated 30% of veterans experience increases in physical symptoms that become chronic, termed Chronic Multi-Symptom Illness (CMI). CMI causes disability levels, defined as difficulty performing daily activities and social participation, which are equal to that experienced by individuals with other chronic conditions such as cancer. Despite this significant disability there are few efficacious treatments, making the development of evidence based treatments for CMI a priority. The purpose of this study was to examine a cognitive behavioral stress reduction treatment to reduce the disability of veterans with CMI. We used a three arm factorial design comparing usual care to face to face cognitive behavioral therapy to telephone delivered cognitive behavioral therapy. Our primary dependent variable was the physical role subscale of the SF-36 which captures limitations in veterans engaging in their necessary roles (e.g., work, being a father). Secondary outcomes include depression, PTSD symptoms, physical symptoms and three other subscales of the SF-36. ANOVA analysis showed a non-significant interaction of time by treatment arm on any outcome variable. There was no significant differences between the arms in the primary dependent variable (role physical), or any of the secondary variables (physical function, depression, PTSD symptoms or physical symptoms). To better understand the null findings we examined if there were changes in catastrophizing from baseline to 3 months among participants who completed the treatment. Catastrophizing is a cognitive response style of extreme thinking in response to pain such as thinking pain will cause death or thinking one can not handle pain. In this study there were no differences in changes in catastrophizing between the treatment arms. This study suggests that cognitive behavioral therapy for stress reduction is likely not an efficacious treatment for Veterans with CMI. Veterans may need a more tailored patient centered approach.

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N018

12:00 PM-1:00 PM

DIET AND LIFESTYLE RANDOMIZED COMMUNITY TRIAL TO REDUCE INFLAMMATION IN

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Chronic inflammation is linked to many chronic diseases and may be influenced by diet and physical activity (PA). This study tested a community-based diet and PA intervention's ability to reduce inflammation in African-American adults. A randomized controlled (RCT) design was used as well as partnerships with African-American churches. Church members conducted the intervention over 1 year with 12-weekly and 9-monthly group-based sessions. Twenty-three churches were randomized (12 intervention, 11 control) with 627 participants. Questionnaire, anthropometric, and accelerometer data along with blood samples were conducted at baseline, 12 weeks, and 1 year. Linear regression was used to test intervention effectiveness. Participants were primarily women (80%) and on average obese (BMI=32.6±6.9 kg/m²) with high levels of inflammation (C-reactive Protein (CRP)=3.9mg/L ±4.1, IL-6=2.3±1.8). Despite a mean class attendance of 60%, group assignment was not associated with inflammatory markers, HbA1c, or body composition among all participants. Men in the intervention group had lower mean CRP values compared to controls (2.6 vs. 3.7mg/L, $p=0.05$) at 12-weeks. At 1-year, a non-statistically significant difference of similar magnitude was observed (2.6 vs. 3.9, $p=0.17$). Despite use of a community-based approach, delayed intervention, and attempts to reduce data collection burden, 2 churches withdrew and 386 participants were lost to follow-up. Self-report and objective measures of health indicated drop outs had poorer health than those who remained in the study. Findings highlight the struggle community-based studies face when applying the rigor of a RCT as well as intervening with at-risk populations. Success with men who remained in the study is of interest given difficulties faced in recruiting and retaining men in lifestyle interventions. Next steps include examining changes in diet and PA among participants as well as differences in those who saw success and those who did not.

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N019

12:00 PM-1:00 PM

MIRROR, MIRROR BY THE STAIRS: THE IMPACT OF SELF-AWARENESS ON STAIR VERSUS ELEVATOR USE IN COLLEGE STUDENTS

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Previous research has indicated that self-awareness-inducing mirrors can successfully incite behavior change, such as encouraging helping. However, few studies have examined how mirror exposure and perceived body size influence physical activity (PA) participation. The present study assessed stair vs. elevator use on a western college campus and hypothesized that mirror exposure would increase stair use. One hundred and sixty-seven students participated in a study about "transportation choices" at an indoor campus parking garage. Participants were individually exposed to either no mirror, a standard full-length mirror, or a full-length mirror manipulated to make the reflected body size appear either slightly thinner or slightly wider than normal before proceeding to the garage's fourth floor where they completed a survey assessing demographic information, body mass index (BMI), self-awareness, and other variables likely to be associated with stair use. Participants' chosen method of ascending from the first to fourth floor (i.e., stairs or elevator) was recorded by a researcher. Results from logistic regression analyses revealed that participants who were not exposed to a mirror (OR = 0.37, 95% CI: 0.14 – 0.96), males (OR = 0.33, 95% CI: 0.13 – 0.85), those with lower BMI (OR = 0.84, 95% CI: 0.71 – 0.99), those with higher exercise participation (OR = 1.09, 95% CI: 1.02 – 1.18), and those engaging in more unhealthy weight-control behaviors (OR = 1.55, 95% CI: 1.14 – 2.11) were significantly more likely to take the stairs. The counterintuitive finding that mirror exposure was associated with a decrease in stair use may be explained by research indicating that public self-awareness, as induced by a large mirror, actually decreases intrinsic motivation for a task and college students are primarily extrinsically-motivated to engage in PA. Students who see a mirror may be deterred from stair use if they do not think of it as a popular or appearance-changing form of activity. Future research should thus explore mirrors in conjunction with participants' activity-related motivations.

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N020

12:00 PM-1:00 PM

NEITHER DISTRESS TOLERANCE NOR EXECUTIVE FUNCTION MODERATE THE RELATIONSHIP BETWEEN PA INTENTIONS AND PA BEHAVIOR

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Relationships between executive function (EF) or distress tolerance (DT) and engagement in moderate-to-vigorous physical activity (MVPA) have been observed and one study observed that a dimension of EF moderated the intention-behavior relationship. There has been increasing excitement about EF and DT as they relate to health behaviors. The present study sought to evaluate dimensions of EF and DT as moderators of the intention-behavior link in MVPA. Participants were 111 adults who were 6 months into a behavioral weight loss treatment. The prescription for MVPA was stable at 250 minutes/week. Participants reported their intention for MVPA at the beginning of each of two weeks, wore an accelerometer during those same two weeks, and completed measures of DT (cold pressor) and EF (percent of responses that were perseverative [Wisconsin Card Sorting Task; WCST] and Delay Discounting [DD]). Variables measured were DT ($M=36.9\pm56.0$; log transformed for subsequent analyses), DD area-under-the-curve ($M=68\pm16$), WCST ($M=8.57\pm5.24$), weekly intention ($M=232.29\pm101.25$), and average weekly MVPA ($M=63.85\pm90.48$). There was a highly significant medium effect of intention on behavior ($p<.01$; $\eta_p^2=.09$). There was a near-zero moderating effect for of DT ($\eta_p^2=.003$) and EF (DD $\eta_p^2=.002$; WCST $\eta_p^2=.003$) in the relationship between intention and behavior. Several possible explanations for these null results exist. Intention was measured during an intervention (possible reporting bias) and only once weekly (intentions may change day-to-day). Objective measurement may more accurately reflect behavior than self-report (typically used). Relationships between EF or DT and intention and behavior may differ in adults who are overweight or obese (who are known to enjoy MVPA less and have greater deficits in EF). Chosen dimensions of EF and DT may not capture the type of self-regulation necessary for engagement in MVPA or there may actually exist no effect of EF or DT on the relationship between intention and behavior.

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N021

12:00 PM-1:00 PM

STUDY OF SENIOR ATTITUDES, BARRIERS, & FUNCTIONAL FITNESS OVER TIME

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Goal: The long range health goal was to decrease physical injuries due to falls in adults 65 and older by improving performance on seven measures of functional fitness as well as motivation, attitudes, and intent to exercise. Methods: Using a quasi-experimental design in which the pretest of intervention and comparison groups was completed in the fall of 2012 and a posttest in the spring of 2013, this poster presents the results of a one year follow-up completed in summer of 2014. Seniors over age 65 were recruited from DC Metro area senior housing, churches, the GW Senior Advantage program and the outpatient GW primary care clinic and were given a choice between the intervention and the comparison group. The intervention group received a 12 week physical exercise intervention. Interview protocols, health status and functionality measures were based on the Rikli & Jones Senior Fitness Test and the B*safe test devised by the investigators. Attitudes and behaviors were assessed using three reliable instruments. Results: Our results show 98% retention from initial assessment to post intervention and 88% retention at end of the first follow-up year. A repeated measures ANOVA analysis showed a group as well as a time effect on some variables. However, over time, the two groups showed parallel improvements on motivation, self-efficacy and intention in which the intervention group was consistently higher than the comparison group. While between pre- and post-test, ANCOVA analysis showed no significant differences between the intervention and comparison groups on the six functional measures in the Rikli & Jones Senior Fitness Test or the B*safe test, by one year follow-up, the effects of the intervention are more clear. To better understand the characteristics of seniors who exercise, regardless of initial assignment, we conducted paired t-tests of post-test to one year followup. History of past exercise is an important indication of which seniors will continue to maintain fitness. Our recommendation is that, based on past exercise, interventions be tailored to different types of seniors in order to improve the likelihood that they will maintain functional fitness as they age.

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N022

12:00 PM-1:00 PM

DO PREGNANCY PLANS AFFECT HEALTH BEHAVIORS AMONG NEWLY MARRIED WOMEN?

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Introduction: Marriage is a milestone in a woman's life that often precedes intentions to actively plan to conceive children. Establishing and maintaining positive health behaviors prior to conception reduces adverse maternal and child birth outcomes. However, it is unclear if women who are actively planning to become pregnant engage in different health behaviors or differ in weight from women not planning to become pregnant. **Methods:** Women married in the past 8 months ($N=79$; mean age 28.0 ± 5.6 years) completed an online survey assessing intentions to become pregnant in the next year, sleep, physical activity, alcohol use, dietary monitoring, and weight. Analysis of variance was used to test differences on health behaviors between women planning and not planning to become pregnant in the next year. **Results:** Approximately half of the sample ($n=37$; 46.8%) intended to become pregnant in the next year. Overall, the sample was healthy: sleep (Mean= 7.6 hours ±1.0 hours); alcohol (Mean= 2.4 ± 1.09 drinks on days reported drinking); physical activity (Mean= 3.3 ± 3.0 days per week). The majority agreed that they regularly monitored their diet. Women planning pregnancy had a higher BMI (mean= 25.3 ± 5.8) compared to women not planning pregnancy (mean= 23.6 ± 4.2), however this difference was not significant. There were no significant differences between groups on 1) hours or quality of sleep, 2) physical activity intentions, 3) dietary monitoring, or 4) binge drinking. **Discussion:** In this descriptive study, no statistically significant differences on health behaviors emerged between women intending and not intending to become pregnant in the next year. Differences may not have emerged because the sample was overall healthy, too small to detect differences, or women may not be altering behaviors in preparation for pregnancy. Future studies should examine beliefs about expected health behaviors changes during pregnancy among women intending to become pregnant to inform health messaging for this life milestone.

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N023

12:00 PM-1:00 PM

RACE/ETHNICITY, TIMING OF PREGNANCY RECOGNITION AND WOMEN'S RISK OF DELIVERING A LOW BIRTH-WEIGHT INFANT

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The Pennsylvania State University, State College, PA

This paper examines four distinct research questions about the relationships between race/ethnicity, pregnancy recognition, and low birth weight. First, do Black women recognize their pregnancies later than White women? Second, is the standard measure of late pregnancy recognition an appropriate predictor of low birth weight risk? Third, does late pregnancy recognition partially mediate the established association between race and low birth weight? Finally, does late pregnancy recognition amplify Black women's risk of bearing a low birth weight infant? To investigate these research questions, data from the Early Childhood Longitudinal Study-Birth Cohort are analyzed ($N=4400$) using weighted ordinary least square (OLS) and logistic regression models. Results indicate that Black women are significantly more likely than White women to recognize their pregnancies late. In addition, the standard measure of late pregnancy recognition that dichotomizes recognition into pregnancies recognized at six weeks and earlier or seven and later is not optimal in models predicting low birth weight risk. Instead these findings appear to be driven by women who recognize pregnancy much later—after the 12th week of gestation. In unadjusted models, recognition of pregnancy in the 12th week or later is significantly associated with an increase in low birth weight risk. Surprisingly, however, White women who recognize their pregnancies this late have a higher risk of having a low birth weight infant relative to Black women recognizing their pregnancies in the same time frame. When statistical models are adjusted for confounders, these associations were no longer significant. This suggests that timing of pregnancy recognition is not a significant predictor of low birth weight risk net of women's background characteristics and it does not partially explain why Black women have a higher risk of bearing a low birth weight infant, despite the fact that Black women do recognize their pregnancies later than White women. Intervention efforts may be warranted to help Black women recognize their pregnancies earlier so that they can seek prenatal care earlier, but this is unlikely to change Black women's risk of having a low birth weight infant.

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N024

12:00 PM-1:00 PM

EXAMINING THE IMPACT OF COGNITIVE AND AFFECTIVE RESPONSES TO AMBIGUITY ON WILLINGNESS TO ACCEPT A HYPOTHETICAL NICOTINE VACCINE

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Background: Many medical decisions depend on uncertain risk information that can result from conflicting, incomplete, or unknown empirical data. This type of uncertainty about risk, called ambiguity, is pervasive across many health contexts. In this study, we tested a conceptual model of ambiguity aversion by examining responses to ambiguity about a hypothetical nicotine vaccine in a factorial experimental study. **Methods:** 153 smokers were randomly assigned to view 1 of 4 scenarios that varied risk presentation and ambiguity about a hypothetical nicotine vaccine to aid in smoking cessation. Scenario 1 showed a simple risk presentation using a percent format to describe vaccine efficacy. Scenario 2 used the same risk presentation as scenario 1, but then described an additional study that showed conflicting results. Scenario 3 used the same wording as scenario 1, but added a line expressing that the vaccine was tested only in older adults. Scenario 4 used the same wording as scenario 1, but added a line about a limited study follow up period. After viewing 1 of the 4 scenarios, participants completed measures of readiness to quit smoking, worry about getting sick from smoking and trust in the vaccine. **Results:** Ambiguous risk information did not significantly induce ambiguity aversion in this study or lead to changes in cognitive, affective, or behavioral outcomes. There was some evidence to suggest that people who viewed scenario 3 had higher ambiguity aversion ($p=0.08$) than people viewing the other scenarios but results were not statistically significant (NS). Those who received scenario 2 or 4 had slightly higher confidence in their ability to quit smoking ($p=0.06$) than those who received scenario 1 or 3 but results were NS. There was a NS trend in how often people worry about getting sick because of smoking by scenario type ($p=0.05$); people viewing scenario 1 worried more about getting sick because they smoke compared to people who received other scenarios. Those who viewed scenarios 1 and 2 may have trusted the vaccine less than people who received scenarios 3 or 4 ($p=0.11$). **Conclusions:** Varying risk presentation displays might not be enough to induce ambiguity aversion or lead to additional cognitive, affective, or behavioral outcomes. Future studies could explore additional methods for measuring and testing ambiguity aversion.

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N025

12:00 PM-1:00 PM

EVALUATING ACCEPTANCE AND COMMITMENT THERAPY FOR INSOMNIA: A RANDOMIZED CONTROLLED TRIAL

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Insomnia is a subjective perception of dissatisfaction with the amount and/or quality of sleep and is associated with a number of significant health concerns. Individuals with insomnia often report dysfunctional beliefs about sleep, heightened pre-sleep arousal, and sleep-incompatible behaviors. While traditional behavioral interventions have well addressed the dysfunctional beliefs about sleep and sleep-incompatible behaviors, Acceptance and Commitment Therapy (ACT) may add unique and useful treatment components to existing interventions. A pilot ACT study by Baik and O'Brien (2013) using an ACT protocol revealed promising outcomes for persons with insomnia; the present study examined the efficacy of ACT for insomnia by modifying the previous study using a randomized controlled group. The overall results of the study indicate that the participants viewed the treatment as acceptable and beneficial. They experienced reduced symptoms of insomnia and pre-sleep arousal. Additionally, participants showed improvements in acceptance, use of thought control strategies, and present-focused thinking to variable degrees. The direct indicators of change in sleep activities through the sleep diaries suggest that the participants experienced some improvements in the sleep parameters; however, these changes may not be strongly accounted for by the treatment effect, but are most likely explained by self-monitoring. Despite several limitations observed in the current study, it is meaningful as the first randomized controlled group outcome study that provides empirical data on the benefits of ACT for insomnia. As a relatively new intervention approach for insomnia, ACT is promising and it will likely continue to benefit from future refinement.

Keywords: insomnia, pre-sleep arousal, acceptance and commitment therapy

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N026

12:00 PM-1:00 PM

EFFICACY OF A SMOKING CESSATION COMMUNITY EVENT IN INCREASING PARTICIPATION IN A SMOKING CESSATION COURSE

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Background: Free community smoking cessation programming can increase tobacco quit rates. However, recruitment of underserved, impoverished populations can be difficult and there is a need to identify dissemination methods that increase recruitment and participation. **Objectives:** We examined whether targeted dissemination of a free community smoking cessation event (modified format of the center's traditional course) resulted in increased attendance compared to a traditional weekly course. We also assessed if the event enhanced desire and readiness to quit smoking and attend future programming. The center serves low-income residents and has not utilized targeted dissemination. **Methods:** Approximately 500 flyers were disseminated to churches, drug and alcohol treatment centers, and an in-house medical clinic. Social media was also used to advertised. Hypothesis testing (t -tests & Wilcoxon) was planned to assess differences in attendance and pre/post change in self-efficacy and motivation to attend programming and to stop smoking. **Results:** Four persons over 18 years old who were residents at a drug and alcohol treatment center attended the event and reported hearing about the event via flyer or word of mouth. Significant differences were found among attendance of the event compared to attendance of other classes ($t(6) = 5.33, p < .01$). Due to the small sample size, changes in self-efficacy and motivation were not tested. **Conclusions:** The event resulted in significantly higher attendance; however, in a population where an estimated 23% of persons smoke, participation remained markedly low. Identifying best dissemination practices and participation barriers is necessary to better serve low-income residents in urban, impoverished neighborhoods. This event highlighted that contacting (or targeting) drug and alcohol treatment centers may increase program participation. Although pre/post change of intention and self-efficacy of attending future programming could not be tested, 75% of attendees reported they would be somewhat or extremely likely to attend in the future.

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N027

12:00 PM-1:00 PM

EXERCISE AND COUNSELING FOR SMOKING CESSATION IN SMOKERS WITH CURRENT DEPRESSIVE SYMPTOMS: A RANDOMIZED CONTROLLED PILOT TRIAL

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Despite the development of various strategies to help smokers with current depressive disorders to quit, the smoking relapse rate remains high. The purpose of this pilot study was to estimate the effects of an exercise and counselling (ExCo) intervention on smoking abstinence in smokers with current depressive disorders. We hypothesized that the ExCo intervention would lead to improved abstinence, reduced depressive symptoms and increased physical activity.

Seventy smokers with current depressive disorders were randomly assigned to an ExCo intervention or a time-to-contact control intervention focusing on Health Education (HE), and participated in a 10-session, 8-week program. The primary outcome measure was continuous abstinence at 12 weeks after the beginning of the intervention.

Participants attended 82% and 75% ExCo and HE sessions, respectively. Intention-to-treat analysis showed that, at 12 weeks after the beginning of the intervention, continuous abstinence did not vary significantly between the ExCo and HE groups (48.5% versus 28.5%; Odds Ratio 0.40, [95% CI : 0.12, 1.29]).

This finding, while preliminary, suggests that, given good adherence, ExCo intervention may yield better results than HE in attempts to improve smoking abstinence. However, our final analyses were performed on a sample size which was smaller than originally planned. Therefore, more research on recruiting strategies should be undertaken before a larger trial.

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N028

12:00 PM-1:00 PM

GAME ON? THE GAMIFICATION OF MHEALTH APPS IN THE CONTEXT OF SMOKING CESSATION.

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Introduction: Increasing emphasis has been placed on behavioural therapy in smoking cessation efforts. mHealth aims to join today's arsenal of smoking cessation techniques. Many apps are utilizing 'gamification' (the use of game design elements in non-game contexts) as a tool to drive positive behaviour change. However, a significant knowledge gap currently remains regarding how gamification can affect health behaviour. Our study addressed the motivational mechanisms exploited by gamification in promoting positive health behaviours, in the context of smoking cessation, with a view to generating recommendations on how to create effective gamified mHealth interventions. **Methods:** We conducted a qualitative longitudinal study using a sample of 16 smokers divided into two cohorts. The first cohort used a non-gamified mHealth intervention, whilst the second used a gamified mHealth intervention. The added game components allowed us to isolate the effects of gamification. Each participant underwent 4 one-on-one, semi-structured interviews over a period of 5 weeks. **Results:** We observed that perceived behavioural control and intrinsic motivation acted as positive drivers to game engagement and consequently positive health behaviour. Importantly, external social influences exerted a negative effect. We identified three critical factors, whose presence was necessary for game engagement; purpose (explicit purpose known by the user), user alignment (congruency of game and user objectives), functional utility (a well-designed game). We summarise these findings in a framework, which we propose to guide the development of gamified mHealth interventions. **Conclusions:** Gamification holds the potential for low-cost, highly effective mHealth solutions that may replace or supplement the behavioural support component found in current smoking cessation programmes. Our proposed framework has been built on evidence specific to smoking cessation, but is versatile and can be extended to health interventions in other disease categories. Future research is now required to evaluate the effectiveness of the above framework directly against current behavioural support therapy interventions in smoking cessation.

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MERITORIOUS AWARD WINNER

N029

12:00 PM-1:00 PM

THE DODO BIRD VERDICT CHALLENGE: DOES MOTIVATIONAL INTERVIEWING OPERATE THROUGH DIFFERENT MECHANISMS THAN HEALTH EDUCATION?

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Counseling therapies tend to have similar efficacy regardless of the content (the so-called "Dodo bird verdict") purportedly due to the importance of "non-specific effects" (e.g., attention, therapeutic alliance). An alternative possibility is that therapies can be equally effective but through different mechanisms of action. A large randomized controlled trial comparing Motivational Interviewing (MI) and Health Education (HE) for initiating quit attempts among unmotivated smokers found no significant difference in outcome. The purpose of this study was to explore the possibility that MI operated through increasing "change talk", consistent with MI theory, while HE operated through enhancing participant knowledge. A subset of transcripts from participants' first intervention sessions (N=50) were coded for the occurrence (yes/no) of "Desire change talk" (Desire CT; statements of desire to quit) and "Learning talk" (LT; patient statements indicating learning about the risks of smoking and the benefits of quitting). ICCs ranged from 85% to 100%. Chi-Square analyses demonstrated that the frequency of Desire CT and LT were highly dependent upon treatment group: MI had a higher amount of Desire CT [$\chi^2(1) = 14.02, p < .01$] and HE had a higher amount of LT [$\chi^2(1) = 19.1, p < .01$]. Findings support the hypothesis that MI and HE work through different mechanisms rather than non-specific effects. We speculate that MI may work well for individuals who are well educated regarding risks associated with smoking and HE may be better for individuals who lack prior knowledge. Further research should examine whether the types of "talk" produced from both therapies are related to outcomes for quit attempts.

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N030

12:00 PM-1:00 PM

DOES TREATMENT FIDELITY TO A STRESS MANAGEMENT PROGRAM AFFECT CORTISOL LEVELS IN PREGNANT WOMEN?

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High prenatal stress and cortisol have been shown to lead to negative birth outcomes. While recent studies have shown prenatal cognitive-behavioral stress management (CBSM) programs to reduce cortisol levels, few studies have examined what treatment fidelity factors might influence whether pregnant women obtain beneficial health outcomes. The current study examined whether 1) participant comprehension (i.e., how well a participant demonstrated understanding of CBSM content and skills) was associated with cortisol upon completion of an eight-week, group-based CBSM program, and 2) whether this association was influenced by instructor content fidelity (i.e., extent to which the instructor delivered core CBSM components) among 55 low-income pregnant women (80% annual income < \$19K). Both participant comprehension (Cohen's weighted kappa = .62) and instructor content fidelity (ICC = .87) were coded via videotaped behavioral observation across the eight-week CBSM program while salivary cortisol (area under the curve) was collected at baseline (first trimester), after the program ended (second trimester), and the third trimester of pregnancy. Moderation analyses revealed that although participant comprehension and instructor content fidelity were not associated with cortisol during the second trimester (post-CBSM), the main effects of lower participant comprehension ($b^1 = 4.94, SE = 2.14, t = 2.31, p < .05$) and higher instructor content fidelity ($b^2 = -35.77, SE = 12.49, t = -2.86, p < .01$) were associated with lower cortisol during the third trimester [$R^2 = .54, F(5, 35) = 8.23, p < .001$]. These results suggest that future CBSM program should examine treatment fidelity factors and their influence on biological levels of stress, such as cortisol.

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N031

12:00 PM-1:00 PM

CHILDHOOD ABUSE, RELIGIOUS INVOLVEMENT, AND SUBSTANCE ABUSE IN LIFETIME IN LATINO-AMERICAN MEN

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Introduction: Childhood abuse and subsequent substance abuse are significant behavioral health problems. Few studies, however, have examined whether this early trauma exacerbates adulthood substance abuse, viewed as a negative coping strategy, among Latino men, the largest male minority population in the U.S. Robinson and colleagues' (2012) study found an inverse relationship between religious attendance and substance use disorders in Whites and Africans, respectively, nationwide. However, little is known about whether religious involvement could moderate any traumatic impact on Latino men's substance abuse. To close the gap, we investigated these associations among Latino men (N=1,127) in a nationally representative sample. **Methods:** Using data from the *National Latino and Asian American Study* (NLAAS), we conducted three-step logistic regression analyses and controlling for known demographic and acculturation predictors. **Results:** Among Latino men, rates of childhood physical and sexual abuse were 34.6% and 5.3%, and rates of substance abuse in-past-year and in-lifetime were 4.6% and 16.9%, respectively. In the final model, childhood physical abuse, but not sexual abuse, was positively related to lifetime substance abuse. Frequent religious service attendance was inversely associated with substance abuse; whereas religious coping, age, being US-born, higher acculturative stress, and perceived discrimination were positively associated with substance abuse. **Conclusions:** The study contributes to the literature with the evidenced detrimental effect of physical abuse/victimization and a potential protective effect of religious attendance on the prevalence of substance abuse among Latino-men nationwide. Based on stress-coping theory, the mixed finding on religious involvement suggests that a victim of early abuse could pursue both positive and negative coping strategies, leading to co-existing high levels of substance abuse and religious coping. This knowledge can be used by health care providers in developing various intervention programs to reduce substance abuse.

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N032

12:00 PM-1:00 PM

FACTOR ANALYSIS OF THE WHOQOL-BREF FOR INDIVIDUALS WITH ALCOHOL PROBLEMS IN THE COMBINE STUDY

Elizabeth Stein, M.S., Megan Kirouac, M.S., Katie Witkiewitz, Ph.D.
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Quality of life (QoL) has been examined as a primary and secondary outcome in the treatment of numerous medical and behavioral disorders. Recently the construct of QoL has become important in the context of Alcohol Use Disorder (AUD) as the alcohol treatment field shifts its focus from “curing” AUD to enhancing QoL for individuals diagnosed with AUD (Zurbaran & Foresti, 2009). The World Health Organization’s Quality of Life brief assessment (WHOQOL-BREF Group, 1995) is a widely used measure that was developed to assess health related QoL in adult populations. Previous research has suggested the WHOQOL-BREF assesses QoL via four factors: physical health, psychological health, social relationships, and environmental factors (Skevington, Lofty, & O’Connell, 2004). However, no research has focused on how the WHOQOL-BREF measures QoL in AUD samples. The present research describes a series of factor analyses of the WHOQOL-BREF taken from the COMBINE Study (COMBINE Study Group, 2003), a multisite AUD treatment trial. Both data driven and concept driven approaches are described. In both approaches, confirmatory factory analysis (CFA) was used to test the factor structure. Both approaches used split-half samples; one half was used to specify and re-specify the model until an adequate model was found, and the second half was used to replicate the final model. The primarily data driven approach also used exploratory factor analysis, parallel analysis, and data reduction techniques. This approach yielded a final model ($n = 715$; $\chi^2(28) = 299.148$; RMSEA = .116 (90% CI: .105-.128); CFI = .983) that has inadequate fit indices overall. The primarily conceptual approach yielded a final model ($n=691$; $\chi^2(200) = 1034.87$, $p < 0.001$; RMSEA = 0.078 (90% CI: 0.074, 0.083); CFI = 0.936) that also did not have adequate fit. Although some indices in both methods approached adequacy, neither was considered to provide adequate fit according to recommended criteria (i.e., RMSEA < .06 and CFI > .95; Hu & Bentler, 1999). In conclusion, the factor structure of the WHOQOL-BREF does not appear to be consistent across all populations and more research is needed to better understand the construct of QoL among individuals with AUD.

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Thursday
March 31, 2016
12:30 PM – 1:30 PM

Paper Session 1

12:30 PM-12:45 PM

PERCEPTIONS OF ONCOFERTILITY AND ASSOCIATIONS WITH QUALITY OF LIFE AMONG YOUNG SURVIVORS OF PEDIATRIC CANCER

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Although infertility risks due to childhood cancer treatment are well-documented, research on the psychosocial impact of treatment-associated infertility risks among adolescent and young adult (AYA) cancer survivors is limited. This study examined AYA childhood cancer survivors’ perceptions of oncofertility and cancer treatment-associated infertility risks and associations with patient-reported quality of life (QoL). Patients ages 12 to 25 ($n=70$, M age 19.4, 74% white, 57% female, a majority leukemia/lymphoma survivors) were recruited from a pediatric hematology/oncology clinic and local survivor support organizations. Patients reported knowledge and beliefs about treatment-related fertility risks and reproductive health, and oncofertility information and support needs, and completed the Pediatric Oncology Quality of Life (QoL) scale. Patients’ knowledge about infertility risks and fertility preservation options was low (M 13.5, SD 8.6, range 0-42); patients’ attitudes indicated treatment-related infertility risks was important (M 21.7, SD 7.0, range 0-40), they perceived they were at-risk for infertility (M 3.8, SD 1.0 range 1-5), and expressed unmet needs for supportive resources on reproductive health (M 13.6, SD 4.8, range 1-24). Greater perceived risks of infertility ($r = .34$, $p = .004$) and importance of fertility risks ($r = .34$, $p = .004$) were associated with lower QoL. In a multivariable model adjusting for patient age and gender, beliefs that reproductive health was important was associated with lower QoL ($B = -.68$, $p = .041$). Population data demonstrate few AYA cancer survivors have opportunities to discuss fertility preservation with providers. Our findings indicate AYA patients perceive treatment-related infertility risks as important, associated with QoL, and with needs for more information about reproductive health and fertility preservation. Care models addressing AYA survivors’ infertility risks are needed as part of the diagnosis, treatment, and long-term follow-up of these patients.

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Paper Session 1

12:45 PM-1:00 PM

MEASURING QUALITY OF LIFE IN ADOLESCENTS AND YOUNG ADULTS (AYAs) WITH CANCER: A PROMISING SOLUTION?

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AYAs with cancer represent a population with significant health disparities. Research in AYA oncology has grown substantially in the last decade but knowledge of symptom burden, functioning, and well-being has been hindered by variability in quality of life (QOL) measurement associated with development and disease heterogeneity among AYAs. The aim of this project was to explore the QOL of AYAs using a psychometrically robust and standardized measure from the NIH Patient-Reported Outcome Measurement Information System (PROMIS[®]). 605 AYAs (56.5% male; 17.5% Hispanic) were recruited by an online research panel. Participants had a range of cancers common among AYAs (e.g., 13% leukemia, 9% breast, 8% lymphoma, 8% melanoma, 6% brain) and were stratified in equal groups by treatment (on vs. off) and age (15-17, 18-25, 26-39). Participants completed questionnaires that included socio-demographics, ratings of their “top 5” most important QOL domains, and the adult version of the PROMIS-29 (physical function, anxiety, depression, fatigue, sleep disturbance, ability to participate in social roles and activities, and pain interference scales). AYAs rated their most important QOL domains: 1) physical function, 2) pain, 3) cognitive function, 4) social support, and 5) finances. A 2 (on vs. off-treatment) X 3 (age groups) MANCOVA controlling for gender and living situation (alone vs. with others) revealed a significant interaction effect for treatment X age across all seven PROMIS outcomes (Wilks’ $\Lambda = .794$, $p < .0001$). Off-treatment 15-17 year old AYAs reported the best QOL scores of any age group (Cohen’s $d = 0.1$ for anxiety to 0.7 for social roles) whereas on-treatment 15-17 year old AYAs reported the worst scores of any age group ($d = 1.3$ for sleep disturbance to 2.1 for physical function) suggesting clinically significant scores for all PROMIS outcomes. The NIH PROMIS-29 assesses QOL domains of importance to AYAs but should be augmented with additional relevant domains (e.g., cognitive function, finances). The ability of PROMIS to compare across and within diseases suggests it may be well-suited to provide a common metric for AYAs with different cancers and ages. PROMIS T-scores are easily interpretable for understanding clinical significance. Future work should explore provider perspectives on the clinical relevance of PROMIS and measurement priorities for AYAs’ QOL.

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Paper Session 1

1:00 PM-1:15 PM

FINANCIAL BURDEN AND MENTAL HEALTH OUTCOMES IN YOUNGER CANCER SURVIVORS

Kevin M. Camstra, BS¹, Tania Lobo, MS², Charlene C. Kuo, MPH³, Lindsay Wright, BA⁴, Arnold Potosky, PhD⁵, Carol M. Moinpour, PhD⁵, Roxanne E. Jensen, PhD²

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Introduction: In the U.S., over 1/3 of young adults with cancer report mental health issues, a much higher rate than for older cancer patients. Research indicates common early adulthood stress related to securing employment, health insurance, and financial resources may be associated with this difference. **Objective:** To identify associations between mental health and financial distress, employment, income, and insurance status in cancer survivors aged 18-49. **Methods:** We surveyed young adult cancer (breast, colorectal, gynecologic, and NHL) survivors 18-49 years ($n=340$) enrolled in the Measuring Your Health study recruited through 4 SEER cancer registries in 3 states. Outcomes were measured by PROMIS[®] Anxiety and Depression measures 6-13 months after diagnosis. Scores are standardized (mean = 50, SD = 10) against the U.S. population. Financial well-being (FWB) was measured by the PSQ-III. Significant bivariate results ($p < 0.05$) were identified, and included in multivariate linear regression models. **Results:** Young adult cancer survivors reported higher depression and anxiety than the average U.S. population (means: 52.1 and 53.8), 11% and 15% reported scores above clinically meaningful score thresholds (≥ 65). Over half (53%) reported being worried about paying large medical bills. Our bivariate analysis showed lower income, unemployment, limited insurance, and self-reported poor FWB significantly associated with both higher anxiety and depression scores (≥ 5 points, $P < 0.001$). Multivariate models for depression and anxiety, indicated poor FWB ($\beta = 0.27$, 0.3, $P < 0.01$) and unemployment ($\beta = 0.14$, 0.12, $P = 0.02$) were significant. Insurance coverage and annual income were not for either outcomes. **Conclusions:** Our findings highlight the strong association between financial issues and mental health for younger cancer survivors, regardless of cancer type or stage. Distress over paying for treatment was common and strongly associated with high anxiety and depression. Interventions targeting financial concerns of young adult cancer survivors could improve their mental health.

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Paper Session 1

1:15 PM-1:30 PM

ACCURACY OF THE PRIME-MD IN YOUNG ADULT CANCER SURVIVORS: COMPARISON WITH STRUCTURED DIAGNOSTIC INTERVIEW

Christopher J. Recklitis, PhD, MPH¹, Jaime E. Blackmon, MA¹, Anthony Roman, Grace Chang, MD, MPH²¹Dana-Farber Cancer Institute, Boston, MA; ²Harvard Medical School, Brockton, MA

Background: Professional consensus supports psychological screening for young adult (YA) cancer survivors, but research supporting specific screening measures for this group are limited. The PRIME-MD is a validated interview for psychological problems designed for primary care. **Methods:** We evaluated the accuracy of the PRIME-MD to identify anxiety and depressive disorders compared to the Structured Clinical Interview for DSM-IV (SCID). Participants, 249 YA survivors ages 18-40 (mean=29.49), completed depression and anxiety modules of the PRIME-MD using computer-automated telephone interview and were administered SCID anxiety and depression modules in-person by a trained interviewer. PRIME-MD responses were scored to determine if survivors: 1) screened in for anxiety/depression or, 2) met PRIME-MD criteria for anxiety/depression. **Results:** Evaluating the PRIME-MD screening items alone showed to be an acceptable method for identifying depression diagnoses on the SCID (sensitivity 85.7%, specificity 81.1%). The anxiety screening items however, tended to over-identify cases of anxiety, leading to high sensitivity (100%), but very low specificity (46%). Using full PRIME-MD criteria, 18 of 21 patients with a SCID depressive diagnosis were accurately identified on the PRIME-MD (sensitivity 85.7%, specificity 85.5%). However, only 9 of 16 patients with a SCID anxiety diagnosis met PRIME-MD criteria for anxiety (sensitivity 56.3%, specificity 89.3%). **Conclusions:** Based on comparison with a clinical interview, this study supports the validity of the PRIME-MD for identifying YA survivors with depressive disorders. However, results indicate the PRIME-MD should not be used in this population for identifying patients with anxiety disorders.

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Paper Session 2

12:30 PM-12:45 PM

INITIATION OF WATERPIPE TOBACCO SMOKING: A NATIONALLY-REPRESENTATIVE LONGITUDINAL STUDY OF U.S. YOUNG ADULTS

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Background: While use of cigarettes is declining, waterpipe tobacco smoking (WTS) is increasing. This is despite evidence of known WTS-related negative health effects and potential for dependence. The purpose of this study was to assess longitudinal trajectories related to WTS in a nationally-representative group of U.S. young adults. We further aimed to assess associations between initiation of WTS and factors such as knowledge, attitudes, normative beliefs, and susceptibility. **Methods:** Participants ages 18-30 years old were randomly selected from a national probability-based panel. At baseline and at 18-month follow-up they completed a survey assessing knowledge, positive and negative attitudes, normative beliefs, susceptibility, and behavior, all related to WTS. We used multivariable regression models to assess the independent association between predictors such as knowledge and attitudes and initiation of WTS while controlling for relevant sociodemographic covariates. **Results:** Data were collected from 1786 participants. Ever WTS use was reported by 554 (31%) of the sample, while use in the past 30 days was reported by 107 (6%). Of the 1232 (69%) never users at baseline, 77 (6%) initiated WTS by follow-up. Initiation was significantly associated with positive baseline attitudes towards WTS (OR = 1.67, 95% CI = 1.21 – 2.31) but not negative attitudes. Initiation was also independently associated with baseline knowledge about nicotine in WTS (OR = 2.75, 95% CI = 1.07 – 7.05) but not other harmful chemicals such as tar and carbon monoxide. **Conclusions:** This longitudinal investigation allowed for examination of initiation of WTS use among a nationally-representative sample of young adults ages 18-30. Results suggest that prevention efforts may be most successful if they challenge positive attitudes and emphasize nicotine content associated with WTS. However, emphasizing negative attitudes and other harmful components may be less valuable.

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CITATION AWARD WINNER

Paper Session 2

12:45 PM-1:00 PM

INITIATION OF CIGARETTE SMOKING AFTER E-CIGARETTE USE: A NATIONALLY-REPRESENTATIVE STUDY

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Introduction. Young adults who have never smoked traditional cigarettes are now experimenting with electronic nicotine delivery systems, also known as e-cigarettes. We aimed to conduct the first nationally-representative longitudinal cohort study to determine whether baseline use of e-cigarettes—among initially never-smoking young adults—is independently associated with subsequent initiation of cigarette smoking. **Methods.** We assessed a nationally-representative U.S. sample of participants ages 18-30 years who were never cigarette smokers when they completed baseline surveys in 2013. They were reassessed 18 months later. We used logistic regression to assess the independent association between baseline use of e-cigarettes and initiation of cigarette smoking by follow-up, controlling for ten key variables known to be related to initiation of cigarette smoking: sex, age, race, ethnicity, relationship status, living situation, education level, self-esteem, sensation seeking, and rebelliousness. Analyses incorporated survey weights in order to estimate effects for the national U.S. population. **Results.** Among the 915 never-smoking respondents at baseline, 16 (2.5%) used e-cigarettes. Over the 18-month follow-up, 47.7% of e-cigarette users (9 of 16) but only 10.2% of non-e-cigarette users (92 of 899) initiated cigarette smoking. In fully-adjusted models that controlled for all covariates and incorporated survey weights, baseline e-cigarette use was independently associated with initiation of smoking (AOR = 6.82, 95% CI = 1.2 - 58.6). Multiple sensitivity analyses that varied approaches to missing data, use of survey weights, and recanting showed consistent results in terms of level of significance and magnitude of odds ratios. **Conclusion.** Among U.S. young adults, use of e-cigarettes at baseline seems to be strongly associated with progression to cigarette smoking. These findings support FDA regulations to limit sales and decrease appeal of e-cigarettes, especially to young adults who have not smoked traditional cigarettes.

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CITATION AWARD WINNER

Paper Session 2

1:00 PM-1:15 PM

E-CIGARETTE USE AND INTENTIONS/ATTEMPTS TO QUIT SMOKING AMONG SEXUAL MINORITY VS. SEXUAL MAJORITY SMOKERS IN THE UNITED STATES

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Background: Although not FDA-approved, e-cigarettes are considered by some to be a smoking cessation tool. Sexual minority communities, which include gay, lesbian, bisexual people, show elevated levels of cigarette smoking compared to the rest of the population. This study examines the relationship between current e-cigarette use and past attempts and intentions to quit cigarette smoking among sexual minority smokers in comparison to their sexual majority (straight) counterparts. **Method:** The analysis compared 6,825 sexual majority and 382 sexual minority current cigarette smokers from the 2013 National Adult Tobacco Survey, a stratified, random-digit dialed, telephone survey of noninstitutionalized adults 18 years or older. **Results:** For sexual majority smokers, current e-cigarette use was positively associated with past year quitting attempts (OR = 1.626, 95%CI = 1.345, 1.967) and quitting intentions (OR = 1.720, 95%CI = 1.321, 2.239). For sexual minority smokers, current e-cigarette use was statistically **unrelated** to past year quitting attempts (OR = .767, 95%CI = .406, 1.449) or quitting intentions (OR = .730, 95%CI = .358, 1.489), with both relationships showing a negative trend. The interaction between sexual identity and current e-cigarette use was significant for both outcomes (p = .018 and .025). All findings controlled for demographics, smoking frequency, nicotine dependence, and perceived harmfulness of smoking. **Conclusions:** The relationship between current e-cigarette use and quitting attempts/intentions showed different patterns between sexual minority and majority smokers. The lack of association among sexual minority smokers urges greater attention to the motivations and consequences of e-cigarette use for this population. This finding also raises broader questions of e-cigarettes' potential impact on current health disparities in sexual minority communities.

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Paper Session 2

1:15 PM-1:30 PM

THE IMPACT OF ELECTRONIC CIGARETTE WARNING LABELS AMONG YOUNG ADULT NON-SMOKERS

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The Food and Drug Administration's (FDA) proposed rule to regulate e-cigarettes includes a required warning for e-cigarette ads, and e-cigarette manufacturers currently include warnings on their ads. The content of these warnings varies widely, and their impact on cognitive precursors to tobacco use is unknown. This study investigated the impact of e-cigarette warnings on perceptions of e-cigarettes and combustible cigarettes among 436 nonsmokers ages 18-30. Participants were recruited online, randomized to view an e-cigarette ad in a 3 (Ad/Warning: Ad Only, Ad with Warning, Warning Only) x 3 (Brand: Blu [FDA warning], MarkTen [lengthy warning], Vuse [short warning]) experiment, and reported perceived harm and addictiveness and thoughts about not using e-cigarettes. Participants then viewed 1 of 3 randomly assigned cigarette ads and reported perceived harm and addictiveness of cigarettes. Participants in the Warning Only condition reported higher perceived harm (M 3.0) and addictiveness (M 3.3) and thoughts about not using e-cigarettes (M 5.5) than the Ad Only (harm: M 2.5; addictiveness: M 2.8; thoughts about not using: M 3.2) and the Ad with Warning (harm: M 2.7; addictiveness: M 3.0; thoughts about not using: M 3.9) conditions (all p 's < .05). The Ad Only and Ad with Warning conditions did not differ on those outcomes (p 's > .05). After viewing cigarette ads, participants in the Warning Only condition reported the harms of e-cigarettes were closer to those of cigarettes (M 4.0) than the Ad Only condition (M 4.3, p = .003); neither group differed from the Ad with Warning condition (M 4.2, p 's > .05). Independent of ads, e-cigarette warnings influenced nonsmoker's perceptions of e-cigarettes in a way that may dissuade e-cigarette use, but warnings on ads had no impact. To inform FDA regulatory efforts, research is needed to develop more effective strategies for communicating the potential risks of e-cigarettes to nonsmokers.

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Paper Session 3

12:30 PM-12:45 PM

IMPROVING CONFIDENCE TO EAT BETTER AMONG YOUNG ADULTS – DIFFERENCES IN 3 MONTH FINDINGS OF THE MENU GENY ONLINE INTERVENTION

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Background: Improving food choices requires internal resources, particularly confidence in ability to change, and overcoming external challenges or temptations. Self-efficacy, the sense of one's confidence in ability to take action, and social influence that is exercised through informal, close relationships, play important roles in health behavior. We assessed dietary and self-efficacy changes related to dietary choices that were influenced by social conditions and internal states, by gender and initial fruit and vegetable intake, among young adults enrolled in a randomized online intervention trial to improve food choices. Methods: Young adults, aged 21-30 years from integrated health systems in urban Michigan and central Pennsylvania, enrolled and were randomized into Arm 1 (control website), Arm 2 (tailored and age targeted website), or Arm 3 (Arm 2 website + email coaching). Baseline (BL) and 3-month online surveys included assessments of fruit and vegetable (F/V) intake, and confidence about eating healthy foods in a number of circumstances, e.g., when really hungry, tired, with friends. Repeated measures ANOVA and F-tests compared overall and groups by study arm, gender, and BL F/V intake. Results: For the 1390 participants (81% of BL, women 71%) completing the 3 month survey, mean F/V intake gain was 1.0 (SD 1.4), 1.0 (SD 1.5) and 1.2 svg/day (SD 1.5) by Arm 1, 2, 3, respectively, with no gender differences. Those with low F/V (≤ 1 svg) at BL ($n=153$) improved by 2+ servings across arms, regardless of gender. The greatest SE improvement, regardless of gender, was in eating well in front of friends ($p < 0.0001$), making good choices, eating out ($p < 0.0001$), and eating healthy when depressed/in a bad mood ($p < 0.0001$). Men also gained in SE to eat healthy around junk food ($p < 0.001$). The low BL F/V group's gains resembled those of men, and increased SE to prepare healthy meals ($p < 0.001$) and avoid higher fat foods ($p < 0.001$). Conclusions: Change in perceptions of self-efficacy across a number of social and internal conditions, regardless of gender, corresponded to the experience of working to eat more F/V. Self-confidence improved the most in those with lowest BL rates of F/V intake, who ultimately made the greatest gains in dietary change, regardless of gender.

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CITATION AWARD WINNER

Paper Session 3

12:45 PM-1:00 PM

SERIOUS GAMES FOR WEIGHT LOSS: A NOVEL APPROACH TO ATTRACT, ENGAGE, AND PROMOTE WEIGHT LOSS IN HIGH-RISK YOUNG ADULTS

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Background: Young adults (YA; ages 18-35) are at high risk for obesity, but are alarmingly underrepresented in traditional behavioral weight loss programs (BWL); only 7% of those who join traditional programs are YAs. Further, the few who enroll have poorer engagement and weight loss compared to older adults (OAs). As a result, NIH has issued a statement highlighting the urgent need for appealing and effective programs targeting this age group. This study examined whether an online weight loss game (www.dietbet.com) appeals to YAs and explored weight losses produced. We also compared YAs and OAs on engagement and weight loss. **Methods:** DietBet.com is a website that uses gaming principles (challenges, monetary prizes, social interaction) to promote weight loss. All games consist of ≥ 2 players. Players have 6 months to lose 10% of initial body weight. At game start, players bet money. During the game, players interact on the platform, uploading progress, posting pictures, "cheering," posting/liking comments, and viewing each other's weight loss via the leaderboard. Players can interact with a mobile app. At the end of each month, those who meet pre-specified weight loss goals (Month 1: 3%, Month 2: 6%, etc.) split a portion of the money bet at game start. Photo- and video-based weigh-in procedures are used to verify weight. **Results:** From the end of 2013 to early 2015, a total of $N=7,950$ participated in a 6-month game. Unlike BWL programs, the majority were YAs (56%, $N=4,440$, 85% Female, $BMI=32.6 \pm 7.0$ kg/m²). YAs completed an average of 36.9 ± 206.0 weigh-ins and social interactions during the game. Intent-to-treat analyses showed that YAs lost an average of $6.3 \pm 5.3\%$. Moreover, 37% of YAs met the 10% goal. Interestingly, unlike traditional BWL programs, there were no significant differences in engagement and weight loss outcomes between YAs and OAs who participated in the game (Engagement: 36.9 posts vs. 35.3 posts; Weight loss: 6.3% vs. 6.3%). **Conclusion:** In contrast to traditional approaches, serious games may be an effective way of attracting, engaging, and promoting weight loss in high-risk young adults.

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Paper Session 3

1:00 PM-1:15 PM

FEASIBILITY AND ACCEPTABILITY OF ITEEN, A SOCIAL MEDIA WEIGHT GAIN PREVENTION STUDY, FOR HEALTHY DISPARITY ADOLESCENT GIRLS

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Nationally, obesity rates are highest among African American and Hispanic youth. A pilot was conducted testing iTeen, an 8-week weight gain prevention intervention that promoted healthy eating and physical activity via an online social media site. Health disparity adolescent girls, aged 10-14, were randomized to either an online social media group (SM) or an online social media site + electronic chat Coaching group (SM+eCoach). Both groups had access to the SM site where they could view weekly handout topics on healthy eating and physical activity and corresponding videos that were designed to be appropriate for health disparity adolescent girls. SM+eCoach received weekly electronic chat sessions based in social cognitive theory and utilizing a motivational interviewing approach to discuss weekly topics in healthy eating and physical activity. After 10 months of recruitment, 51 participants were randomized. Girls averaged 12.1 years ($SD=1.24$) with a BMI of 24.95 kg/m² ($SD=4.44$) and were 30% Hispanic, 41% Black, 18% low income whites, and 11% were multiracial. Leon, Davis, and Kraemer (2011) have called for using pilot studies to provide feasibility and acceptability data rather than data to power for larger trials. Following Leon et al.'s recommended reporting of feasibility data, this study yielded a screening rate of 16.8 participants/mo, an enrollment rate of 5.9 girls/mo, a randomized from eligibles proportion of 54%, a retention rate of 80% for the end of treatment assessments, and an intervention (i.e., eCoaching chat sessions) attendance rate of 66%. Acceptability was derived from consumer satisfaction questionnaires completed at 8-weeks. Overall satisfaction with the iTeen program was rated on an ordinal 7-point scale (1=not at all satisfied to 7=very satisfied). Girls' overall satisfaction was rated positively, and was higher for the SM+eCoach group ($SM=5.4$, $SM+eCoach=6.89$; $F=6.07$, $p=.03$). Parents' overall satisfaction was also rated positively, and higher for the SM+eCoach group ($SM=4.5$, $SM+eCoach=5.9$; $F=6.29$; $p=.02$). Thus, iTeen, an online only program, demonstrated preliminary feasibility and acceptability with a hard to reach health disparity population of adolescent girls.

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Paper Session 3

1:15 PM-1:30 PM

YOUNG ADULTS' PERFORMANCE IN AN INTERNET-BASED WEIGHT LOSS PROGRAM WITH MODEST FINANCIAL INCENTIVES

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Background: Over half of young adults (YA; age 18-35) meet criteria for overweight or obesity, yet YAs are markedly underrepresented in in-person behavioral weight loss (BWL) programs, representing just 7% of participants. Further, YAs are less likely to be retained and lose less weight than older adults (OA). Our formative data suggest that YAs desire an individual-level, technology-delivered program with minimal in-person contact, and financial incentives were cited as a primary method for promoting engagement and weight loss. **Methods:** We conducted secondary analyses to examine YAs performance in an internet-based BWL program that incorporated financial incentives. Participants (N=89, 80% female, 86.5% NH White, BMI=33.5±6.5) received a 3-month program that included 1 in-person group session, followed by a web-based program with weekly lessons, a self-monitoring platform and weekly automated feedback on progress. Participants received small, variable incentives for weekly self-monitoring (\$1-10 for reporting 5/7 days) and were entered into a raffle for weight loss (\$50 for 5% and \$100 for 10%). **Results:** YAs represented 13.5% of the sample; there were no demographic or BMI differences between YA and OA (all p's >.05). Retention was excellent for YA and OA (92% vs. 96%, p=.49). Relative to OA, YAs viewed a comparable number of lessons (6.0 vs. 7.2, p=.31), but reported their weight, diet and activity self-monitoring data less frequently (p's=.03, .014 and .045). On average, clinically significant weight losses were achieved, with no significant differences for YA and OA (ITT= 5.4±5.7% vs. 6.3±4.8%, p=.57 and completers = 5.9±5.8% vs. 6.6±4.7%, p=.69). Among completers, there was a trend in favor of YA achieving a 10% weight loss (46% vs. 22%, p=.087). **Conclusion:** Internet-based BWL programs that incorporate modest financial incentives have the potential to improve retention and weight loss among high-risk YAs.

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Paper Session 4

12:30 PM-12:45 PM

DISORDERED EATING BEHAVIORS: DOES HIGH FOOD REWARD SENSITIVITY INCREASE RISK?

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High food reward sensitivity (FRS) may increase susceptibility to overeating and weight gain in the presence of highly palatable foods. Compensation may occur in the form of disordered eating behaviors (DEB) such as taking diet pills or fasting, especially among those most concerned about their weight. The objective of this study was to assess the association between FRS and DEB and test whether body weight perception moderated that association.

The NEXT Generation Health Study is a nationally representative sample of US emerging adults (n=2785); data from Wave 5 (one year post high school; n=2202) was used for this analysis. Participants reported their FRS using the Power of Food Scale and indicated which, if any, DEB they had engaged in in the past year. Two types of DEB were examined separately as outcomes: substance use (diet pills, laxatives, diuretics, and food substitutes) and eating less (fasting, skipping meals, and eating very little food). Body weight perception (underestimator, accurate, overestimator) was calculated by subtracting perceived from actual weight status (both categorized as underweight, normal weight, overweight). Linear regressions estimated the average association of DEB with FRS, adjusting for race, gender, & SES with and without interaction terms between BWP and FRS.

FRS was positively associated with eating less (B=.04±.02) but not weight loss substance use across BWP groups. There was a significant FRS*BWP interaction on substance use (Wald(2, 18)=3.67, p=.046): the association of FRS and weight loss substance use was stronger for overestimators than those with accurate BWP (B=.08±.03). There was no difference between underestimators and those with accurate BWP.

High FRS may increase susceptibility to food restriction regardless of weight perception. Additionally, those who see themselves as heavier than they are and have high FRS may be at greatest risk for taking substances to aid weight loss – a less common and possibly riskier method of weight loss. Results highlight the importance of research on FRS as a potential risk factor for DEB.

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Paper Session 4

12:45 PM-1:00 PM

USING ECOLOGICAL MOMENTARY ASSESSMENT TO EXAMINE POST-FOOD CONSUMPTION AFFECT IN MOMS

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Background: Emotional eating has been associated with obesity; yet little is known about affective states after food consumption in everyday lives. Pleasurable affective experience after consuming certain foods might act as positive reinforcement; providing implications for behavior change. This study aims to use Ecological Momentary Assessment to examine perceived feelings of positive affect (happiness) and stress after eating junk food and fruits and vegetables (FV) and to test whether those affective feelings differed by social context and weight status. **Methods:** Electronic surveys were randomly delivered through a smartphone app for 7 days to 179 moms. Moms rated their current feelings, reported if they had consumed any junk food (i.e., chips/fries, sweets/pastry, fast food, soda) and FV in the past 2 hours; and with whom (alone, their children, or others). Multilevel modeling was conducted with affective state as the outcome and food consumption as the predictor. In separate models, social context was the predictor for affective state after consuming junk food or FV, respectively. All predictors were partitioned into between-subject (BS) and within-subject (WS) effects. Effect of weight status was examined using subgroup analysis. **Results:** On average, moms reported eating junk food 17% and FV 22% of the answered prompts. More frequent junk food consumption was associated with happier mood among normal weight moms (WS) and more frequently feeling stressed among obese moms (WS; ps < .05). Being with their kids (vs. alone) while eating junk food was associated with happier post-eating mood among normal weight and overweight moms (WS; ps < .05). More frequent FV consumption was associated with happier mood for all moms (WS) and more frequently feeling stressed among overweight moms (WS; ps < .05). Being with their kids (vs. alone) while eating FV was associated with happier post-eating mood and less frequently feeling stressed for all moms (WS; ps < .05). **Conclusions:** Post-food consumption affect differed by social context and weight status. Though further research is needed, these preliminary findings potentially offer opportunities to encourage eating behavior change among certain subgroups (e.g., obese moms) and under specific context (e.g., eating with kids).

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Paper Session 4

1:00 PM-1:15 PM

INTEROCEPTIVE AWARENESS AND EMOTIONAL EATING: THE ROLE OF APETITE AND EMOTIONAL AWARENESS

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Broad deficits in interoceptive awareness (IA), or the ability to perceive and identify internal sensations, have been found to be associated with emotional eating (EE), or eating in response to emotions rather than a physiological need (e.g., Ouwens, et al., 2009). However, more recent evidence suggests that separately examining two specific components of IA - appetite awareness (AA), or the ability to attend to and eat in response to appetitive cues, and emotional awareness (EA), or the extent to which one is able to identify his or her emotions - may be important for understanding EE (e.g., Brown et al., 2010). The aim of this study was to determine the association of IA, as well as its components of AA and EA, with EE.

147 college women (59% White; 28% Black) from a small urban college completed the Interoceptive Awareness Questionnaire – Expanded (IAQ-E; Trenary et al., 2005), the Toronto Alexithymia Scale-20 (TAS-20; Bagby, Parker, & Taylor, 1994), and the Emotional Eating Scale (EES; Amow, Kenardy, & Agras, 1995). Consistent with hypotheses, three separate regression analyses demonstrated that IA, AA, and EA were inversely associated with EE ($R^2 = .29$, $F(1,145) = 59.90$, $p = .000$; $R^2 = .28$, $F(1,145) = 55.72$, $p = .000$; $R^2 = .15$, $F(1, 145) = 25.95$, $p = .000$). To further examine the unique contributions of AA and EA, a simultaneous multiple regression was conducted with AA and EA as the IVs; the overall model was significant ($R^2 = .31$, $F[2, 144] = 31.84$, $pt(144) = 5.67$, $\beta = .44$, $r = .393$, 95% CI [.946, 1.96], $p = .000$) had a larger unique effect on EE than EA ($t(144) = 2.46$, $\beta = .19$, $r = .170$, 95% CI [.137, 1.27], $p = .015$). Results suggest that deficits in recognizing hunger and satiety signals may be a stronger contributor to EE than deficits in identifying emotions, although both appear to be important. As such, interventions that target the improvement of both AA and EA, with particular emphasis on AA, may increase the effectiveness of treatment for college women with EE.

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Paper Session 4

1:15 PM-1:30 PM

LOW DISTRESS TOLERANCE, OVEREATING, AND FOOD ADDICTION AMONG OVERWEIGHT RESIDENTS FROM METROPOLITAN DETROIT CITIES

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Background/Objectives: Low distress tolerance (DT) is defined as an inability to handle negative emotional and/or physical states. There is strong empirical support for the connection between low DT and substance addiction, which suggests that the former might also be related to a newer concept, food addiction. Further, previous work found that low DT was related to overeating in a university student sample. This study had two aims: 1) to determine whether low DT is significantly associated with overeating in a diverse sample of participants, and 2) to extend the DT literature base by investigating the relationships among DT and body mass index as well as DT and food addiction symptoms. **Methods:** One hundred and ninety residents of Metropolitan Detroit communities (mean age: 41.71; 45.8% male; 34.7% non-White race) completed the Distress Tolerance Scale, Dutch Eating Behavior Questionnaire, Three Factor Eating Questionnaire, and Yale Food Addiction Scale. Body mass index was based on measured weight and height. **Results:** After adjusting for age, sex, and race, linear regression models found significant negative relationships between DT and emotional eating ($P = 0.000$), external eating ($P = 0.001$), disinhibition ($P = 0.000$), and body mass index ($P = 0.03$). There was also a significant inverse association between DT and food addiction symptoms after adjustment for age, sex, race, and parental status ($P = 0.000$). **Conclusions:** These results provide evidence that low DT is not only associated with overeating, but it is also related to both body mass index and food addiction symptoms. Interventions targeting low DT should be considered to possibly reduce overeating, which is a precursor to obesity and possibly food addiction.

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Paper Session 5

12:30 PM-12:45 PM

IS INITIATING TANNING BED USE AS A MINOR ASSOCIATED WITH INCREASED RISKY TANNING BEHAVIORS?

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Background: Tanning bed use is a known cause of skin cancer, and initiating tanning at younger ages is more strongly associated with skin cancer risk. Little research, however, has examined if initiating tanning bed use at younger ages is associated with riskier tanning behaviors (e.g., more tanning sessions, longer tanning sessions, and not wearing eye protection). This exploratory study examined the associations between initiating tanning bed use as a minor (i.e., < 18) with risky tanning behaviors and burning. **Methods:** A convenience sample of 134 current young female indoor tanners (tanning bed use in previous year) completed a survey assessing tanning history and behaviors, including at what age they began tanning indoors. We used multivariable logistic regression to assess the odds of engaging in risky tanning behaviors and burning for those that initiated tanning as a minor (<18), compared to those that initiated tanning at age 18 or older. **Results:** Mean age of respondents was 20.1 years ($SD=1.1$); 55% had initiated tanning bed use as a minor. After controlling for age, race/ethnicity, self-reported skin type, sunburn frequency, and frequency of sun protective behaviors, tanners that initiated tanning as a minor (compared to ≥ 18 initiation) had significantly greater odds of using a tanning bed 10 or more times in the previous year ($AOR=2.06$ (95% $CI=1.03, 4.11$)), using a tanning bed for 10 or more minutes ($AOR=2.59$ (95% $CI=1.10, 6.10$)), ever using a tanning bed without eye protection ($AOR=3.48$ (95% $CI=1.04, 11.65$)), ever falling asleep inside a tanning bed ($AOR=11.05$ (95% $CI=4.19, 29.12$)), and ever burning from a tanning bed ($AOR=3.15$ (95% $CI=1.14, 8.74$)). **Conclusions:** Tanning bed initiation as a minor was associated with a number of risky tanning behaviors and burning. Youth access restrictions, such as under 18 bans, may help reduce the harms caused by tanning beds.

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Paper Session 5

12:45 PM-1:00 PM

THE WARNING AND SAFETY REGULATORY EXPERIENCES OF YOUNG WOMEN AT INDOOR TANNING SALONS

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Indoor tanning (IT) is implicated in approximately 400,000 cases of skin cancer diagnosed in the U.S. each year. Several U.S. state and federal government policies exist to increase regulation and decrease access to IT. IT industry trade organizations have argued against the need for further regulation due to self-imposed industry training guidelines. These guidelines are designed to teach salon staff to warn clients of the long term risks of IT and to provide clients with "safety guidelines" for avoiding skin erythema (sunburn). This survey study aimed to determine if IT users report receiving such warnings or safety guidelines at IT salons. The sample included 275 young women aged 18-26 ($M=22.27$, $SD=2.06$) who reported having ever indoor tanned at IT salons. Participants were recruited from a probability-based U.S. web survey panel, and reported the frequency with which they experienced seven specific regulatory strategies that were listed in materials used by the IT industry to train salon staff (e.g., determine IT exposure schedule, inform about potential risks of overexposure, teach how to avoid erythema while using IT). The seven warning and safety guideline strategies were reported to have never been experienced by 9.9-35% of the sample. The most infrequently reported experiences involved avoiding erythema; over 30% of the sample reported never having these experiences at salons. Of the sample, 16.8% reported IT despite having very fair skin, and these high-risk individuals were less likely to have read and signed a consent form than those IT users with darker natural skin tones ($p=.002$). Although the efficacy of using these strategies in reducing risk from IT is unclear, results indicate that many IT users are not receiving this information from salons. It is important that policy makers consider that self-imposed industry regulations do not appear to be sufficient for providing information about the risks of IT to patrons.

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Paper Session 5

1:00 PM-1:15 PM

TOXIC BEAUTY: THE INFILTRATION OF BOTOX AND UV TANNING IN GYMS, BEAUTY SALONS, AND SPAS IN SEVEN U.S. CITIES

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Introduction: Societal appearance ideals place disproportionate burden on women, who make up the vast majority of the consumer base for cosmetic surgery and U.V. tanning. These industries, which sell procedures and products that are associated with a range of health risks, have expanded rapidly in recent years. Yet it is unknown how provision of these procedures has infiltrated other industries and whether this varies by geographic region. **Methods:** We gathered data from 6003 gyms, beauty salons, and spas in 7 major U.S. metropolitan areas (Boston, New York, Chicago, Seattle, Los Angeles [LA], Dallas, Miami) in fall 2014 on the provision of U.V. tanning and injections of botulinum toxin (e.g., Botox). We calculated the percent of each business type that offered the procedures and conducted Chi square tests to examine metro-area differences. **Results:** We found 12% of gyms, 2% of beauty salons, and 6% of spas offered U.V. tanning, and 0.4% of gyms, 2% of beauty salons, and 15% of spas offered botulinum toxin injections. Comparing across metro areas, we found the percent of gyms offering U.V. tanning significantly differed, ranging from 5% (LA) to 18% (Chicago; $P < 0.0001$); the percent of spas offering U.V. tanning ranged from 3% (LA) to 11% (Boston; $P < 0.0001$); and the percent of spas offering botulinum toxin injections ranged from 10% (Seattle) to 23% (Dallas; $P < 0.04$). **Discussion:** The beauty industry's provision of toxic and carcinogenic procedures in consumer settings serving tens of millions of Americans is a major public health concern. U.V. tanning in gyms is particularly troubling given the common perception among the public that gyms and their services are health enhancing.

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Paper Session 5

1:15 PM-1:30 PM

ASSOCIATION OF AGE AT INDOOR TANNING INITIATION AND CURRENT USE AMONG STUDENTS AT 3 U.S. COLLEGES: A SURVEY OF 837 STUDENTS

Casey Daniel, PhD, MPH¹, Alan Geller, MPH², Jennifer Hay, PhD³, Brooke Foucault Welles, PhD⁴¹Harvard T.H. Chan School of Public Health, Brighton, MA; ²Harvard School of Public Health, Boston, MA; ³Memorial Sloan Kettering Cancer Center, New York, NY; ⁴North-eastern University, Boston, MA

Background: Melanoma incidence has been increasing sharply among young women more so than young men likely attributed to higher rates of outdoor and indoor intentional tanning. We surveyed students at 3 U.S. colleges to compare factors associated with never, formerly, or currently indoor tanning, focusing on age of initiation of indoor tanning. **Methods:** Participants from the 3 undergraduate institutions completed a brief, self-administered survey asking questions regarding demographics, tanning attitudes, and tanning behaviors, including questions regarding age at tanning initiation and current tanning practices. **Results:** Of the 837 participants, 261 (31.2%) reported ever indoor tanning. Of those, 148 (56.7%) reported currently indoor tanning, defined as doing so at least once in the past 12 months. Most college students currently indoor tanning started before/in high school (freshmen: 88%; sophomores: 95%; juniors: 90%; seniors: 82%). Earliest initiators were more likely than later initiators to be current tanners vs. former tanners and to indoor tan more frequently in the past year. **Conclusions:** Early initiation was associated with indoor tanning persistence. The high prevalence of indoor tanners who reported starting before/in high school are now potentially in their seventh or eighth year of indoor tanning. Future interventions for college students should be founded in behavioral theory and promote indoor tanning cessation for long-term users.

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Paper Session 6

12:30 PM-12:45 PM

MECHANISMS OF MOTIVATIONAL INTERVIEWING FOR DEPRESSION IN PRIMARY CARE

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Background: Motivational interviewing (MI) is a counseling approach for improving engagement in treatment for substance abuse and other health behavior change. Although there is evidence that MI delivered in primary care is also effective for treating depression, underlying mechanisms are unknown. This study examined an MI conceptual model by testing relationships among training in MI, MI skills and spirit, patient change talk, patient treatment adherence, and depressive symptom changes. **Methods:** Primary care providers (PCPs) were randomized to receive training to provide MI for depression or to provide standard management of depression (SMD) for patients with positive depression screens. Treatment options included antidepressant medication (ADM), counseling, and other mood-improving behaviors like physical activity (OPA). Encounter recordings were coded using standard instruments to assess provider MI skill and spirit and patient change talk. Treatment adherence was measured with data from the electronic medical record and patient self-report. We used multilevel modeling to test a series of pathways in the MI conceptual model. **Results:** MI providers demonstrated significantly greater provider MI skill than SMD providers. MI skill was associated with more change talk for depression treatment and for OPA specifically. Provider MI Spirit was associated with greater change talk for counseling, but change talk for counseling was not related to counseling adherence, and counseling adherence was not related to depression symptom change. ADM change talk was associated with ADM adherence. Depression symptoms were negatively associated with ADM adherence (at 6 weeks) and OPA adherence (at 6, 12 and 36 weeks). **Conclusions:** These data support some elements of the MI conceptual model, especially for change talk and OPA. While some patients expressed interest in counseling, lack of access to adequate counseling may have been a barrier. An MI approach to engaging patients in depression treatment in primary care is effective but may be contingent upon access to patients' preferred treatment modality.

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Paper Session 6

12:45 PM-1:00 PM

EFFECTS OF A FOUR SESSION MOTIVATIONAL INTERVIEWING INTERVENTION ON PATIENT ADHERENCE TO CARDIAC REHABILITATION

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Previous studies have shown that standardized cardiac rehabilitation programs are associated with physical and emotional benefits for patients with various heart conditions. However, patients must complete the program in order to fully benefit. Depression and anxiety are major predictors of drop out from rehabilitation. This investigation sought to improve patient completion of cardiac rehabilitation by a four session motivational interviewing/stress management program. Patients with myocardial infarction (MI), coronary artery bypass graft (CABG) surgery, stable angina, chronic heart failure (CHF, NYHA class I or II), were recruited from the phase II cardiac rehabilitation program at our hospital. The study was approved by the IRB and patients provided informed consent. All patients were offered 36 sessions of structured cardiac rehabilitation and completed the following assessments (relative to this study) prior to and after completion of rehab: 12 minute walk test, Beck Depression and Beck Anxiety Inventories; SF-36. Patients were randomized to the control or intervention groups. The intervention consisted of four 30 minute group sessions which were based on concepts underlying motivational interviewing (20 minutes), concluding with a simple relaxation exercise (10 minutes). Data was analyzed with SPSS. The sample consisted of 36 intervention and 33 control patients, 44% women, average age 64 years. Intervention patients evidenced a significantly higher completion rate from cardiac rehab (61%) compared to the controls (27%) ($p=.005$). Patients in the intervention group had a significantly higher average number of sessions of cardiac rehab (28) attended compared to controls (18) ($p=.002$). The intervention was associated with increased likelihood of completion of cardiac rehab and a greater number of sessions completed. As in previous reports, patients beginning rehab with higher depression and anxiety scores were more likely to drop out.

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Paper Session 6

1:00 PM-1:15 PM

TECHNOLOGY ENHANCED HEALTH COACHING FOR VULNERABLE POPULATIONS: ENGAGEMENT WITH COACHING AND EARLY OUTCOMES

Emily Spence-Almaguer, PhD¹, Danielle Rohr, MS², Katherine Cantu, CHES³, Kwynn Gonzalez-Pons, BS⁴, Shlesma Chhetri, BS², Scott Walters, PhD⁵, Whitney Hill, MPH²¹University of North Texas Health Science Center, Fort Worth, TX; ²UNT Health Science Center, Fort Worth, TX; ³UNTHSC School of Public Health, Fort Worth, TX; ⁴UNT Health Science Center, Bedford, TX; ⁵UNT Health Science Center, Ft. Worth, TX

Permanent Supportive Housing (PSH) residents face ongoing physical and mental health challenges, despite ending their chronic homelessness and obtaining supportive case management services. m.chat is a technology-enhanced health coaching program designed to improve the health and well-being of PSH residents. The m.chat demonstration project has been implemented with nearly 300 PSH residents in Tarrant County, Texas who experience mental health conditions, are low-income, and receive Medicaid or are uninsured. The project delivers monthly health coaching sessions lasting approximately one-hour. Health coaches use Motivational Interviewing and Solution-Focused techniques interwoven with a specialized software program built around six domains of health: social support, diet, exercise, substance abuse, medication management, and recreation/leisure. Participants may view their health risks and strengths on the software interface, and have the ability to report on their current level of motivation and reasons for change, create goals and action items, establish text reminders, obtain community resource referrals, and monitor their progress in each domain. Participants also earn monthly Chat Bucks that allow them to select wellness incentives from a program menu.

Data associated with the m.chat implementation and participant outcomes are exported on a monthly basis, while being closely monitored by project staff. Early results indicate strong fidelity to the coaching model and promising outcomes through significant reductions in depression symptoms (measured by the PHQ9), substance abusers (measured by the Timeline Follow-back Questionnaire and Intercept oral swabs), and criminal justice interactions (measured by a legal questionnaire). Participants who spent the greatest portion of their Chat Bucks on exercise items also reflected the largest decreases in depression.

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Paper Session 6

1:15 PM-1:30 PM

IMPACT OF MOTIVATIONAL INTERVIEWING ON ATTRITION IN A PARENT-EXCLUSIVE PEDIATRIC OBESITY INTERVENTION

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Innovative approaches to reduce attrition in pediatric obesity interventions are urgently needed, particularly among African Americans (AA). Motivational interviewing (MI), a brief communication style for exploring and resolving ambivalence about change, might enhance treatment engagement. We piloted a MI intervention implemented with parents as an adjunct to a larger randomized controlled trial of Nourish+ (Nourishing Our Understanding of Role modeling to Improve Support and Health), a culturally tailored parent intervention for overweight children ages 5–11 years. We investigated if parents randomized to receive 2 MI sessions prior to Nourish+ (one via telephone following telephone screening and one in person preceding the first group session) had better retention compared to parents randomized to the main trial (Nourish+ and Control), who received reminder calls only. At baseline, parents in the MI arm ($N=64$) were 91% female; 52% AA; M age=41 yrs; M body mass index (BMI)=36.1 kg/m². Children ($N=71$; M age=9.5 yrs; 55% AA, 52% female, M BMI=97th percentile) completed assessments only. Parents who completed 1 telephone MI session were more likely to attend the baseline/orientation session (74%) compared to parents who received reminder calls only (53%, $p < .001$). There was no difference in session 1 Nourish+ group attendance between parents who attended MI session 2 and parents in the main trial. Completion of post or 4-month follow-up assessments did not differ between conditions. Preliminary findings suggest that 1 MI session implemented early in treatment (a point of high attrition across obesity trials) can improve baseline attendance; a second MI session did not enhance these effects. Thus, a single-session telephone-based MI pre-treatment might be a cost and time-effective strategy to enhance recruitment efforts by reducing ambivalence about participation in obesity treatment. Findings are particularly notable given the target population is both at high obesity risk and demonstrates the highest attrition risk.

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CITATION AWARD WINNER

Paper Session 7

12:30 PM-12:45 PM

USING EHEALTH TO ENGAGE ASIAN/PACIFIC ISLANDER UNDERGRADUATES IN DECISION TO BE AN ORGAN DONOR ON THEIR ADULT DRIVER'S LICENSE

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Over half of the 120,000 people on transplant waiting lists are ethnic minorities. However, the proportion of Asian, Native Hawaiian, Pacific Islanders (ANHPI), on waiting lists exceeds their representation in the general population. ANHPI college students have low designated organ donor (DOD) rates, particularly Filipinos. Individuals are typically asked about becoming a DOD when they renew their driver's license; but most never think about this choice outside of the short-lived DMV transaction. Intervening with drivers before their license renewal can be difficult to arrange; however, opportunities arise when college students turn 21 and want to obtain an adult license. Taking advantage of college students' frequent use of online technology, including social networking sites (e.g., Facebook) and social media sites (e.g., YouTube), the iDecide Hawaii Project's methods and baseline results will be described, including its eHealth intervention that leverages such technology to engage and educate ANHPI students about a range of topics related to the choice to be a DOD. The project will test the impact of introducing, sequentially, an eHealth intervention tailored to college students at three Hawaii universities via a multiple baseline, randomized delayed treatment design. The goals are to increase DOD rates by encouraging peer discussions/interactions/advocacy about organ donation. Effectiveness will be measured by a change over time in the percentage of students who become a DOD on their license/donor registry (250 students per university measured across 6 time points; thus, total sample = 4,500). Students and student organizations will participate in contests to win prizes (e.g., for best YouTube video for students with organizations recruiting the most students to "pledge" to become a DOD on their next license). Our eHealth intervention will use social media visited frequently by college students, and the concept of "gamification" to turn college students' learning and advocacy ideas surrounding the choice to be a DOD into a game or contest with their peers. Thus far over 600 students have joined online contests and over 2,280 have completed online surveys. Preliminary results from baseline surveys and examples of contest entries will be presented.

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Paper Session 7

12:45 PM-1:00 PM

PROMOTING PHYSICAL ACTIVITY AMONG OVERWEIGHT WOMEN USING WEARABLE TECHNOLOGY AND ONLINE SOCIAL NETWORKING

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Wearable physical activity tracking technology, which shares users' physical activity (PA) data in online social networks, has the potential to address the need for scalable PA programs for overweight women. At present, however, it is not clear how to use wearable devices to maximize the effectiveness of evidence-based PA promotion techniques. This study assessed the feasibility, acceptability, and preliminary effectiveness of an online PA program for women. Novel features of this program were: (1) use of wearable technology and an associated online social network, (2) the assignment of PA partners (in addition to group contact) for support and accountability, and (3) use of multilevel modeling (MLM) techniques to assess PA change during the program. Sedentary, overweight/obese women ($n=20$, M age=50, M BMI=30.9 kg/m²) were taught to use wearable PA sensors to monitor progress. Participants were paired into partnerships based on demographic similarities and sensor-verified starting PA levels (mean baseline period=8.2 days). Participants attended one face-to-face session to introduce evidence-based PA skills (e.g., goal setting); the remainder of the 6-week program emphasized use of the PA sensor, communication with PA partners, and interaction with other group members online. Retention over six weeks was 100%. During the program, 17/20 participants (85%) posted to the group message board, and partners communicated with each other twice per week on average. Objectively-verified daily sensor wear was high (97%) and participant ratings of the program were favorable (e.g., $M=3.85$ of 5 for "effectiveness"). Participants showed large increases in steps per day (from 3796 to 8189) and aerobic activity (from 12.68 to 24.1 min/day) over 6 weeks. Perceived lack of social support as a barrier to PA also decreased during the program ($d=0.87$). Findings thus support the feasibility, acceptability, and preliminary effectiveness of incorporating wearable technology and online social networking into an online PA promotion program for overweight women. Although additional work is needed to test the added benefit of wearable technology in PA programs, these results indicate that larger, randomized trials of this approach are warranted.

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Paper Session 7

1:00 PM-1:15 PM

ORCHID: PILOT TEST OF AN ONLINE POSITIVE AFFECT INTERVENTION FOR PEOPLE LIVING WITH HIV AND DEPRESSION

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Depression as a comorbid condition of HIV is associated with poor outcomes including more rapid HIV progression and suboptimal medication adherence. This pilot efficacy study assessed whether a positive affect intervention in an online delivery format (ORCHID) could improve psychological well-being in those living with HIV and depression.

Twenty participants were randomized to a daily emotion reporting control group ($N=11$) or an online positive affect skills intervention condition ($N=9$), in which they received information and home practice activities on eight positive affect skills (e.g., gratitude, mindfulness) over five weeks. Participants in both conditions engaged in daily emotion reporting via Internet, and affect reporting via text message 2x/week. 17 participants completed the post intervention assessment approximately 6 weeks post-baseline.

Compared to the control condition, those in ORCHID showed significantly increased positive affect $\beta = .53$, $t(8) = 3.52$, $p < .001$, and decreased depression as measured by the CES-D, $\beta = -.59$, $t(8) = -3.55$, $p < .001$ and the PHQ ($\beta = -.60$, $t(8) = -2.68$, $p = .02$ and perceived stress $\beta = -.29$, $t(8) = -2.22$, $p = .04$. Intervention effects on perceived stress and depression were mediated by increases in positive affect (direct effect of intervention drops 82% from $\beta = -.51$ to $\beta = -.09$, $p_{direct} = .98$, $p_{mediation} = .06$ and 65% from $\beta = -.1336$ to $\beta = -.459$, $p_{direct} = .46$, $p_{mediation} < .01$, respectively).

Results indicate that online positive affect interventions can be efficacious for those living with HIV and depression, significantly influencing emotions that may ultimately impact disease progression and medical advice adherence. Our goals for further research include exploring longer follow up periods and physical health-related outcomes.

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Paper Session 7

1:15 PM-1:30 PM

PREVENTIVE MEDICINE FOR THOSE WHO NEED IT MOST: CHANGING HEALTH BEHAVIORS IN INDIA, ONE TEXT AT A TIME

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Diabetes prevalence is concentrated in low/middle income countries (LMIC) which often struggle to disseminate preventive health care due to wide geographic range, lack of resources, and/or language barriers. With the increased penetration of mobile phones even in areas that lack basic infrastructure, mHealth interventions can fill the gap to disseminate public health interventions across a population. In one LMIC, India, diabetes prevalence is estimated to be 62 million and mobile phone subscriptions have reached over 900 million, providing an optimal context to test a text message intervention. A parallel cohort design was used to prospectively investigate the effect of a text messaging program (mDiabetes) on change in diabetes-related health behaviors. Behaviors targeted included fruit and vegetable intake, fat intake, and exercise. Nokia subscribers in India were asked to opt-in to the mDiabetes program on their mobile devices. One million subscribers chose to receive 56 messages in their choice of 12 languages over 6 months. The intervention group (n=982) was randomly selected from those one million subscribers. Control participants (n=943) were randomly chosen from a list of subscribers to non-Nokia mobile phone providers. Blinded assessors phone interviewed participants about their health behaviors at baseline and 6 months later. Those assigned to receive text messages showed greater improvement on a health behavior index score over 6 months versus those who did not (F(1, 1238) = 30.18, $p < .001$, 95% CI [0.251, 0.531]). Further, declines in health behaviors were evident in the control group as compared to the intervention group. Fruit, vegetable, and fat intake all improved in the intervention group compared to controls ($p > .01$) though no change was demonstrated in exercise. The results support the promise of text messages to overcome barriers to preventive health care delivery in LMICs.

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CITATION AND MERITORIOUS AWARD WINNER
Paper Session 8

12:30 PM-12:45 PM

DOES THE IMPACT OF PHYSICALLY ACTIVE LESSONS ON FOURTH GRADE STUDENT PHYSICAL ACTIVITY DIFFER BY GENDER, RACE/ETHNICITY, OR BMI?

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Background: Research suggests that PA interventions during the elementary class time increase chances for children to meet PA guidelines. It is unclear if subgroup differences exist in PA interventions. This study examines differences in amount and intensity of PA among children involved in a PA intervention compared to those who did not receive the intervention by race, gender, SES, and BMI. Method: Participants included 739 fourth graders from 9 central Texas schools (m age=9.6; m BMI=18.66; 49.7% female; 43.9% white). Students in intervention schools received either language arts (LA) (n=279) or math PA lessons (n=295). Students in control schools received standard instruction (n=165). Percent of time spent in light, moderate, and vigorous PA intensities and in sedentary was assessed over a school week via accelerometry. Gender, race (white vs non-white), and BMI were taken from Fitnessgram data provided by schools. SES was assessed by eligibility for free or reduced lunch. BMI was dichotomized as in the healthy or unhealthy fitness zone. Four 3X2 ANOVAs were conducted to test interaction effects between condition and race, gender, SES, and BMI on levels of PA intensities. Results: Students in both the LA and math PA intervention schools spend greater percent of time in vigorous activity ($F(2, 736) = 29.1$, $p < .0001$) compared to those in control schools. Post-hoc tests suggest that students in the LA condition spend significantly less time sedentary and more time in moderate activity compared to those in the math and control schools. There were no interaction effects between conditions for percent time spent in sedentary, light, moderate, and vigorous PA categories for race, gender, or SES. There was an interaction effect for BMI and condition such that students in the LA and math conditions, regardless of BMI status, spent greater percent of time in vigorous PA than those in the control condition. Conclusion: Academic PA lessons provide the opportunity for students to increase their PA levels during while they learn. The type of academic PA intervention may impact the intensity of activity. Future research should focus on different forms of these lessons to maximize impact.

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CITATION AWARD WINNER

Paper Session 8

12:45 PM-1:00 PM

PREDICTING HEALTH IN ELEMENTARY SCHOOL CHILDREN: THE ROLE OF PHYSICAL ACTIVITY, WEIGHT AND DIETARY INTAKE

Noel Kulik, Ph.D., Erin Centeio, Ph.D., Nate McCaughtry, Ph.D.

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Adults' self-rated health (SRH) has been a consistent independent predictor of morbidity and mortality, and has been associated with obesity and level of physical activity (PA) among both adolescents and adults. Little is known about SRH and children. The purpose of this study is examine SRH by race/ethnicity, sex, weight status (BMI), dietary intake (F&V) and PA, and to explore factors that predict change in SRH. Participants were 4th/5th grade students (N= 379; 45% female) from six Midwestern USA elementary schools. Children came from low- to lower-middle class socioeconomic backgrounds and ranged in age from 8 to 11 years (Mean: $9.1 \pm .61$). Data were collected at the beginning (T1) and the end (T2) of the school year spanning 8 months. Body weight and height were taken by trained research assistants, demographic, F&V and SRH data were collected via questionnaire, and PA by accelerometers. At T1, 45.9% (n=153) of children rated their health as excellent, 22.8% (n=76) as very good, 23.4% (n=78) as good, 4.5% (n=15) as fair, and 3.3% (n=11) as poor, with a mean of 4.01 ± 1.1 . There was a significant, small negative correlation between BMI and SRH ($r = -0.12$, $p = .037$) such that children with a higher BMI reported lower SRH. Children who ate more F&V reported a higher SRH ($r = 0.11$, $p = .048$). Children rated their health lower at T2 ($2.93 \pm .99$) than T1 ($3.09 \pm .99$), $t = -2.353$, $p = .019$. A logistic regression was run to predict excellent health (maintainers and increasers from T1) at T2. Change in PA, BMI and F&V were used as predictor variables, and age, race/ethnicity and sex were entered as control variables ($\chi^2(11) = 26.374$, $p = .006$; Nagelkerke $R^2 = 14.7\%$ and correctly classified 69.1% of cases). Change in MVPA (OR = 1.043, $p = .017$) and change in F&V (OR = 1.163, $p = .001$) were significant predictors of SRH at T2. Findings from this study suggest that the relationships between behavior, BMI and SRH emerge as young as 9 years of age, and that improved SRH is connected to increased PA and F&V intake. Future research on SRH in children is needed to understand how children view health, the additional psychosocial predictors and secondary conditions that may influence perception, and how to best intervene to prevent poor SRH tracking into adolescence.

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Paper Session 8

1:00 PM-1:15 PM

PROMOTING ACTIVE PE IN THE COMMONWEALTH OF NORTHERN MARIANNA ISLANDS – EVALUATING SPARK IMPLEMENTATION FOR K-12

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PURPOSE: The risk of obesity in the Pacific Islands demands attention to increase physical activity (PA) in schools via effective intervention. SPARK (Sports, Play, & Active Recreation for Kids) has shown to increase students PA but has limited application with Pacific Islanders. Our purpose was to evaluate the SPARK program implementation in the Commonwealth of the Northern Mariana Islands Public School System (CNMI-PSS).

METHODS: All schools (Fourteen elementary schools, four junior high schools, and five senior high schools) from CNMI-PSS were invited with 2-5 representatives to two days of SPARK trainings, one in the Fall and one in the Spring. The trainings were evaluated with 6 items. The System for Observing Fitness Instruction Time (SOFIT) was utilized to observe a random sample of classes within a random sample of schools representing each level (6 elementary, 3 junior high and 4 high) and was validated with pedometers at 9 classes from 9 schools (3 elementary, 3 junior high and 3 senior high) at the beginning and end of the school year. SOFIT assessed student activity, lesson context and teacher interaction.

RESULTS: The trainings were very positively evaluated by participants (mean of six items across all trainings 4.95/5). The students increased the percent time spent walking and doing vigorous activity during PE classes by -4-16% over the school year (overall: T1=48.24%, T2=57.12%, $p < .01$; elementary schools: T1=47.44%, T2=50.37%, $p < .01$; junior high schools: T1=45.81%, T2=52.58%, $p < .05$; senior high school: T1=50.6%, T2=66.25%, $p < .01$). This reflected an increase in: a) lesson contexts of fitness activities and game play; and b) teacher interactions of promoting fitness, and managing. Decreases were found in teacher interactions in demonstrating fitness, instructing, and observing. **CONCLUSION:** This shows SPARK's success in changing PE instruction resulting in positive changes in PA time of CNMI students during the PE classes. These results show potential for SPARK programs to be disseminated to other Pacific Islands and potentially beyond.

ACKNOWLEDGEMENT: We would like to thank Jackie Quitugua, Associate Commissioner for Instructional Services of CNMI-PSS and all the CNMI-PSS teachers and students for their invaluable contributions.

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Paper Session 8

1:15 PM-1:30 PM

SCHOOL-BASED MINDFULNESS TRAINING TO PROMOTE HEALTHY BEHAVIORS IN ADOLESCENTS: A PILOT STUDY

Elena Salmoiraghi-Blotcher, MD, PhD¹, Susan Druker, MA², Florence Meleo-Meyer, MS, MA³, Christine Frisard, MS⁴, Sybil Crawford, PhD⁵, Beth Bock, PhD⁶, Leslie Smith Frank, PA⁷, Barbara Olendzki, RD, MPH, LDN⁸, Lori Pbert, PhD⁵

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Background Poor diet and physical activity (PA) are modifiable risk factors for cardiovascular disease and are highly prevalent in teenagers. Interventions to promote a healthy lifestyle in adolescents have had limited effects. This study (NCT01975896) assessed feasibility and acceptability and explored efficacy of school-based mindfulness training in adjunct to health education on impulsiveness, diet and PA among 9th graders. **Methods** High schools in central MA ($n=2$) were randomized to standardized health education plus either mindfulness training (HEM) or attention control (HEAC). Demographics, diet (24 hr recall), PA (7 day recall), and impulsiveness (Barratt) were assessed at baseline, intervention completion (2m), and 8m. Pre-post intervention changes in PA, diet and impulsiveness were compared between groups, adjusting for baseline differences. **Results** Of 201 students screened, 53 (26%) were enrolled (30 HEM, 23 HEAC, mean age 14.5 yrs, 60% white, 59% female). Retention at 2 and 8 m was 100% and 96%, respectively. Class completion was 65% (HEAC) and 63% (HEM). 93% of HEM and 77% of HEAC students indicated they were satisfied with the intervention. HEM focus groups identified areas for improvement; students found mindfulness training challenging but helpful in learning to think before acting. Impulsiveness increased in HEAC but remained stable in HEM and differences were maintained at 8m (between-group, pre-post intervention change at 2m, HEM vs. HEAC: -2.8; SE 1.56, $p=0.08$; at 8m: -2.29, SE 1.6; $p=0.16$). PA decreased in both groups at 2m reflecting seasonal variations in outdoors activity; at 8m, HEM returned to near-baseline levels while HEAC did not. Fruit/vegetable (F/V), fiber and sodium intake decreased in both groups at 2m, but at 8m HEM had a smaller decrease in F/V and fiber and a greater decrease in sodium than HEAC. **Conclusions** School-based mindfulness training for adolescents is feasible and acceptable and showed preliminary indications of a beneficial effect on healthy behaviors.

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Paper Session 9

12:30 PM-12:45 PM

ADVERSE CHILDHOOD EXPERIENCES, SPIRITUALITY, AND DEPRESSION

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Background: Spirituality is associated with a lower risk of depression, while exposure to adversity during childhood, such as abuse and family dysfunction, is associated with a higher risk of depression. However, these protective and risk factors have not been examined together in relationship to depression. **Objective:** To determine whether those who report greater spirituality have a lower risk of depression across a range of exposures to adverse childhood experiences (ACEs). **Methods:** In 2012, we conducted an anonymous web-based survey of 2,160 staff working in Pennsylvania's Head Start and Early Head Start programs. We assessed ACE score (count of exposure to eight categories of childhood adversity), spirituality (Daily Spiritual Experiences Scale), and the prevalence of depression (Centers for Epidemiologic Studies-Depression Scale Score ≥ 16). **Results:** Ninety-seven percent of respondents were female, 86% were non-Hispanic white, 56% were ≥ 40 years of age, and 23% reported ≥ 3 ACEs. The prevalence of depression was 34%, 27%, 20%, and 17% across quartiles from low to high spirituality, respectively ($p < .001$), and was 18%, 23%, 27%, and 34% among those who had experienced 0, 1, 2, or ≥ 3 ACEs, respectively, ($p < .001$). At each level of ACEs exposure, the prevalence of depression was lower in those with greater spirituality. For example, among persons reporting ≥ 3 ACEs, those in the highest quartile of spirituality had a prevalence of depression less than two-thirds that of those in the lowest quartile (adjusted prevalence ratio (95% confidence interval) = 0.61 (0.44, 0.83); for those reporting no ACEs, the adjusted prevalence ratio was 0.46 (0.28, 0.77). **Conclusion:** Across a range of exposures to adverse childhood experiences, higher levels of spirituality are associated with a lower risk of depression. Spirituality may mitigate the impact of childhood adversity on depression in adulthood.

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Paper Session 9

12:45 PM-1:00 PM

THE RELATIONSHIP BETWEEN RELIGIOSITY AND HEALTH-PROMOTING BEHAVIORS IN PREGNANT WOMEN AT PREGNANCY RESOURCE CENTERS

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Religiosity (e.g. prayer, attending church) has been reported to be related to health behaviors in pregnant women, yet pregnant women at Pregnancy Resource Centers (PRC; Christian community-based centers with a focus on meeting needs of pregnant women) have not been previously studied. Therefore, the relationship between religiosity and health-promoting behaviors of pregnant women at PRCs was studied. Pender's Health Promotion Model guided this descriptive correlational study. A consecutive sample included pregnant women, many with unintended pregnancies, who knew they were pregnant at least two months, could read/write English, and visited a PRC in eastern Pennsylvania ($n = 86$). Women completed a self-report survey that examined religiosity, demographics, pregnancy-related variables, services received at PRC, and self-reported health-promoting behaviors (Likert-type scale from "never" to "routinely") such as physical activity and nutrition. In separate multiple linear regressions, organized religiosity, intrinsic religiosity (β 's = .21), non-organized religiosity, and satisfaction with surrender to God (β 's = .23) were significant predictors and explained additional variance in health-promoting behaviors beyond what Hispanic ethnicity and attending classes at the PRC explained ($p < .05$), each of which significantly predicted the practice of health-promoting behaviors. Higher levels of religiosity did significantly predict more frequent health-promoting behaviors in this sample of pregnant women as did attending PRC programming and not being of Hispanic ethnicity. Public and private organizations, including PRC, should consider ethnicity, programming, and religious characteristics of their clients as they provide care for a diverse population of pregnant women.

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Paper Session 9

1:00 PM-1:15 PM

POSITIVE AND NEGATIVE INFLUENCES OF RELIGIOUS COMFORT AND ANGER TOWARDS GOD ON EATING DISORDER SYMPTOMS

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Multiple factors contribute to the development or maintenance of eating disorders. Spirituality in eating disturbance and body image disturbance has received increased research attention. Incorporating spiritual resources into treatment has enhanced recovery for some patients. In research examining religious comfort and strain, anger towards God has been identified as an important dimension of religious strain. It was hypothesized that religious comfort and anger toward God would be positively and negatively associated with reduced eating disordered symptoms, respectively, on admission and discharge. This study included 275 patients who were treated in residential, partial, and intensive outpatient eating disordered treatment settings. On admission, religious comfort was negatively associated with drive for thinness, $r(266) = -.14, p = .03$, body dissatisfaction, $r(266) = -.13, p = .04$, and eating disorder risk, $r(266) = -.13, p = .03$. Anger towards God was positively associated with body dissatisfaction, $r(266) = .13, p = .04$. At discharge, only anger towards God was positively associated with eating concerns, as assessed by the Eating Disorder Examination - Questionnaire subscale, $r(98) = .21, p = .04$. These findings highlight the positive and negative influence of spirituality and provide some support for addressing spiritual concerns in the treatment of eating disorders. For some patients, it may be important to understand the relationship between feelings of anger towards God and eating disorder symptoms.

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Paper Session 9

1:15 PM-1:30 PM

UNDERSTANDING THE ROLE OF RELIGIOUS COMFORT AND STRAIN ON AFFECTIVE OUTCOMES IN AN INPATIENT PSYCHIATRIC SETTING

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Religion often represents a double-edged sword for individuals with psychiatric difficulties. On the one hand, religion may provide a sense of comfort and connection with God or the divine as well as other persons during stressful periods. However, religious strain (e.g., feeling alienated from God) has been associated with delayed psychological recovery following trauma and other life difficulties. The associations among religious comfort and strain, positive and negative affect, and depression were examined upon admission and at discharge for patients (N = 183) admitted to a Christian-based inpatient psychiatric hospital. As anticipated, religious strain was negatively associated with positive affect at discharge, $r(156) = -.17, p = .035$; by contrast, religious strain was positively linked with negative affect, $r(156) = .34, p < .001$, along with depression, $r(156) = .16, p < .038$. Conversely, religious comfort was positively associated with positive affect at discharge, $r(156) = .37$, and negatively associated with negative affect and depression, r s from $-.27$ to $-.33$; all p -values $\leq .001$. Using repeated measures ANOVA, significant improvements occurred between admission and discharge for religious comfort, religious strain, and all three mental health outcomes, p s $< .001$. In particular, religious comfort and positive affect increased and religious strain, negative affect, and depressive symptoms decreased during hospitalization. These improvements on religious strain and comfort, as well as their associations with mental health-related outcomes, highlight the potential importance of addressing spiritual concerns in this integrated treatment program.

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CITATION AWARD WINNER

Paper Session 10

12:30 PM-12:45 PM

NO WEARABLE SENSORS REQUIRED: USING THE MOBILE PHONE CAMERA TO PASSIVELY MEASURE PHYSIOLOGY FOR EMA

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Ecological Momentary Assessment (EMA) can be enhanced by incorporating physiological measurements, such as heart rate variability and sympathovagal balance. Unfortunately, collecting these data generally requires wearable sensors, which adds additional expense for researchers and an additional maintenance burden for the study participants. To eliminate the need for wearable sensors, our group has developed a method of passively measuring a person's heart rate and heart variability using the "selfie" camera on a smart phone, taking advantage of the fact that people spend significant amounts of time throughout the day staring at their phone. Known as video plethysmography, our software enables the smart phone to passively measure heart rate (HR), breathing rate, heart rate variability, and sympathovagal balance. These data can be used to measure autonomic function and stress for objective mood assessment and can also be applied to studies which measure physiological changes correlated with substance abuse, medication compliance, activity level, and food consumption. We present laboratory data collected from 5 subjects, using two different Android models, under a variety of different lighting parameters (natural light, compact fluorescent, and incandescent) as well as different brightness levels (100 to 6000 lumens). We found that for all brightness levels, mean error in HR was less than 3.0 (units = beats per minute), with error of less than 0.5 for light brightnesses between 100 and 1000 lumens. We found that the algorithm performed comparably across different types of lighting, with mean errors of 0.78 (fluorescent), 0.64 (natural), and 0.64 (incandescent). We also tested two subjects under different levels of head movement, and observed mean error of -0.15 (holding still), -0.19 (talking), 0.41 (shaking the head at 0.3 Hz). We believe this technology can find widespread use in data collection for behavior medicine for specific types of clinical research that can benefit from periodic measurement of physiological parameters. Sponsored by the SBM Technology SIG.

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Paper Session 10

12:45 PM-1:00 PM

AFFECTIVE AND BEHAVIORAL PREDICTORS OF COMPLIANCE TO ECOLOGICAL MOMENTARY ASSESSMENT PROTOCOLS IN PHYSICAL ACTIVITY STUDIES

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Background: Ecological momentary assessment (EMA) is a sampling strategy often used with smartphones that minimizes recall errors and biases, while improving ecological validity and data availability. However, few studies have systematically examined compliance in EMA protocols and how behavioral outcomes are related to compliance. This study examines affect, stress, sedentary behavior, and physical activity as within-subject (WS) and between-subject (BS) correlates of compliance to EMA prompting. **Methods:** Participants (N=362, ages 8-57, 75% female) were enrolled in a study examining mother's and their children's health. Participants were prompted up to 8 times per day at fixed time-windows and wore accelerometers for a period of 7 days. Accelerometer data were time-linked to EMA prompts. EMA data were lagged to examine antecedents of answered versus unanswered prompts. Separate multilevel models were used to examine predictors of compliance, disaggregating variance for BS and WS effects and adjusting for age and gender. **Results:** Individuals were 16% less likely to respond to any prompt if they reported greater negative affect on average ($z=-2.01, p < 0.05$). Participants reporting a greater number of stressful events on average, were 0.46 times as likely to respond to prompts ($z=-2.53, p < 0.05$). Sedentary minutes before a prompt and on average were positively associated with compliance (WS: $z=3.54, p < 0.001$)(BS: $z=3.41, p < 0.01$). Minutes of moderate-vigorous physical activity before a prompt were inversely associated with compliance (WS: $z=-2.48, p < 0.05$). **Discussion:** The findings on affective and stress items emphasize the challenges in sustaining compliance for individuals with high stress and negative affect. They also reveal that EMA may not be biased by stress or affective states prior to a prompt, further strengthening the validity of studies utilizing EMA. Finally, the results highlight how behavioral outcomes (e.g. sedentary behavior) may differentially affect EMA compliance, especially in physical activity studies.

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Paper Session 10

1:00 PM-1:15 PM

INTEGRATION OF DATA FROM ACTIGRAPH AND ACTIVPAL MONITORS: CRITERION VALIDITY OF THE SIP METHOD

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Accurate assessment of both physical activity and sedentary behaviors is crucial to understand the health consequences of movement patterns as well as to track changes over time and in response to interventions. **PURPOSE:** To examine the criterion validity of two machine-learning methods for processing activity monitor data in relation to a portable metabolic analyzer (OM; Oxycon Mobile) and direct observation. **METHODS:** Forty-nine adults (ages 18-40) each performed 15 activities in 5-minute bouts ranging from sedentary to vigorous intensity in a laboratory setting while wearing the ActiGraph (AG) and activPAL (AP) monitors and the OM. Estimates of energy expenditure (EE) and intensity categorization were obtained from the OM and the Compendium of Physical Activity and compared with those obtained from the AG processed with Lyden's Sojourns 3-axis method (SOJ) and our new Sojourns Including Posture (SIP) method integrating output from the AG and AP. Categorization accuracy and estimates of EE were compared to criterion measures (Compendium, OM) using confusion matrices, comparisons of log transformed mean absolute error (MAE), and Bland Altman plots. **RESULTS:** Using the Compendium as the criterion, the SIP method had an overall percent agreement of 0.79 [95% CI 0.75, 0.82] compared to SOJ at 0.56 [95% CI 0.52, 0.59]. The sensitivity of the SOJ method for light intensity activity was particularly low at 0.17, compared to SIP at 0.73, with SOJ misclassifying light intensity as sedentary 57% of the time. Compared to OM, estimates of EE from SIP were superior to SOJ with smaller MAE for light (0.21 vs. 0.27), moderate (0.33 vs. 0.42) and vigorous (0.16 vs. 0.36) intensities. Bland Altman plots showed good agreement between OM and both SIP and SOJ, with small biases for light and vigorous intensities. **CONCLUSIONS:** Both SOJ and SIP are comparable to criterion measures. However, the SIP method was superior to SOJ, particularly for differentiating between light intensity and sedentary activities. Thus, SIP is recommended for research in which accuracy of measurement across the full range of activity intensities is paramount.

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Paper Session 10

1:15 PM-1:30 PM

COMPARISON OF UNHEALTHY EATING AND WEIGHT CONTROL BEHAVIORS MEASURES: TIMELINE FOLLOWBACK VS ECOLOGICAL MOMENTARY ASSESSMENT

Chia-Kuei Lee, PhD, Karen Stein, PhD

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Subclinical levels of unhealthy eating and weight control behaviors (UEWCB) are prevalent in women and predict negative health consequences. Timeline Followback (TLFB) method is a retrospective measurement approach that relies on activation of autobiographic memory. Because TLFB is experimenter administered, it may be a valid and reliable approach to measure UEWCB in low literate populations. However, little is known about the merits of TLFB method for UEWCB recording in women with low levels of literacy, socio-economic status, and acculturation. The purpose of this secondary analysis study is to determine correspondence of TLFB with real time diary measurement of UEWCB in Spanish speaking Mexican American (MA) women living in rural farming communities. Nine UEWCB (e.g. overeating, powders, teas to control weight) that were translated to culturally specific behavioral terms were measured. Sixty MA women recorded their behaviors using a specific-designed phone application for ecological momentary assessment (EMA) with event and triggered signaled recordings over a 14 day interval. TLFB was administered by a Spanish speaking data collector after completing the EMA. The most prevalent UEWCB were overeating and dieting from both measures. UEWCB had significantly lower prevalence using the TLFB compared to EMA methodology, including overeating ($\chi^2=11.5$, $p<.001$), dieting ($\chi^2=7.8$, $p=.03$), diet teas ($\chi^2=17.5$, $p<.001$), and diet drinks ($\chi^2=18.3$, $p<.001$). Instances of pills, drops, and cigarette use to control weight were not reported on TLFB but reported on the EMA. The positive correlations for the numbers of UEWCB over 14 days between TLFB and EMA were modest to high ($r=.3$ to $.6$). Wilcoxon signed-ranks test revealed significantly fewer episodes of over eating ($z=-5.4$, $p<.001$) and teas ($z=-2.2$, $p=.03$) on TLFB compared to the EMA. Findings of this study are consistent with other validity studies of TLFB with literate, native speaking populations. TLFB method may underrepresent actual UEWCB frequency in this population due to the cultural norms and social desirability in reporting negative behaviors to interviewer.

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Paper Session 11

12:30 PM-12:45 PM

REDUCING DISPARITIES IN TOBACCO USE BY BOLSTERING SUPPORT FOR ANTI-SMOKING CAMPAIGNS FOR VULNERABLE POPULATIONS

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Introduction. Tobacco industry marketing targets subpopulations such as racial/ethnic minorities, youth, and gays, lesbians, and bisexuals (GLBs). These groups have smoking rates that are higher than the national prevalence or are at greater risk of initiation. To address these disparities, we examined the impact of statements about marketing practices on support for anti-smoking campaigns. **Methods.** We conducted a national phone survey with 5,014 adults (ages ≥ 18) and 1,125 adolescents (13-17) and an online survey with a convenience sample of 4,137 adults (≥ 18). In a 3 \times 4 \times 2 between-subjects experiment, participants received a statement describing industry advertising with varying specificity (no statement, general statement about industry targeting, or a statement specific to a subpopulation). The statements focused on one of four subpopulations which we refer to as prevention target groups: teens, GLBs, African Americans, and Latinos. Participants were either members or non-members of their prevention target group. We asked them how much they would support anti-smoking campaigns for one of the prevention targets. ANOVA was used to examine the effects of industry advertising statement specificity, the prevention target, and group membership on support. **Results.** Support for anti-smoking campaigns varied by prevention target group ($p<.05$). Post-hoc tests showed that support was highest for teens, followed by Latinos and African Americans (equivalent), and then GLBs. Group members expressed higher levels of support than non-members for Latinos, African Americans, and GLBs (all $p<.05$), but there was a non-significant trend in the opposite direction for teens. The stated specificity of industry marketing practices did not have an effect. Results were similar in the phone and Internet surveys. **Conclusions.** Campaigns intended to increase support for anti-smoking efforts for vulnerable subpopulations may benefit from specifying a prevention target. Such campaigns may also benefit from the grassroots support of group members. Our findings will be useful for health education campaigns that seek to reduce disparities in tobacco use.

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MERITORIOUS AWARD WINNER

Paper Session 11

12:45 PM-1:00 PM

USING ECOLOGICAL MOMENTARY ASSESSMENT TO IDENTIFY COMMON SMOKING SITUATIONS AMONG YOUNG KOREAN AMERICAN SMOKERS

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Objective: The present study provides detailed contextual information about smoking habits among young Korean American smokers with the goal of characterizing situations where they are most at risk for smoking a cigarette. Better understanding of these situational contexts is needed in order to develop effective just-in-time adaptive interventions (JITAs) for smoking cessation that are tailored for this population. Relevant situational information included location, social context, concurrent activities, time of day, affective states, and food and beverage consumption. **Method:** Using ecological momentary assessment (EMA) over 7 days, participants (N=78) were instructed to respond to event-contingent smoking prompts (n=2,614) and signal-contingent prompts randomly scheduled throughout the day (n=2,136). At each prompt, participants completed a 2-minute survey about immediate contextual factors. In addition to reporting descriptive statistics, we used generalized linear mixed models to evaluate the association between contextual factors and smoking. **Results:** Compared to non-smoking events, smoking events were associated with being outside, the presence of Korean friends, socializing, consuming alcohol, and eating meals or snacks (all $p's < 0.01$). Being more stressed relative to one's own average stress was associated with smoking ($p < 0.01$). Further analyses involving only smoking events showed that being at home (35%), being alone (46%), and studying or working (25%) were the modal location, social, and activity contexts, respectively. We also found that when smoking by themselves, participants were most commonly at home (65%) and most often studying or working (29%). When smoking with Korean friends, participants were most often outside (25%) and were socializing (43%). **Conclusion:** To our knowledge, this is the first study to provide detailed descriptions of real-time smoking contexts among young Korean American smokers. Identifying situations where smoking is most common is critical for the development of JITAs where cessation strategies need to account for multiple contextual factors.

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Paper Session 11

1:00 PM-1:15 PM

THE TIME-VARYING EFFECT OF CIGARETTE SMOKING ON SUBSEQUENT STRESS AMONG YOUNG KOREAN AMERICAN SMOKERS

Christian J. Cerrada, BS, Jimi Huh, PhD

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Objective: The purpose of the present study was to evaluate the self-reported smoking-related stress reduction process among young Korean American smokers, a group at high risk for smoking initiation. We modeled stress reduction as a function of minutes since a cigarette was smoked, using time-intensive data and examined whether this association differed by gender and by smoking intensity, i.e. heavy vs. light smokers. **Methods:** Seventy-eight Korean Americans (18-25 yo) who smoked >4 cigarettes/day (CPD) were recruited. Momentary perceived stress was assessed using ecological momentary assessment (EMA) via two prompt types at multiple times per day for 7 days: self-initiated smoking prompts at the time of lighting up a cigarette and non-smoking prompts randomly assigned in 5 time blocks throughout the day. A stress reduction variable was defined as the difference between levels of stress at each smoking prompt and those assessed at non-smoking prompts that immediately followed it. Negative values indicated stress reduction. Time-varying effect modeling (TVEM) was used to explore the fluctuation of stress reduction within 120 minutes following a smoking event. **Results:** Stress reduction following smoking was observed only among heavy smokers (10+ CPD) but not among light smokers. Our results also demonstrated that, among heavy smokers, stress was alleviated temporarily between 17 minutes (est= -.34; CI: -.66, -.01) and 24 minutes (est= -.32; CI: -.64, -.01) after smoking. Furthermore, when participants reported either an ongoing stressor or stressful event occurring at the time of smoking, stress reduction was more pronounced and lasted between 18 minutes (est= -.28; CI: -.55, -.01) and 54 minutes (est= -.24; CI: -.48, -.01) after smoking. Time-varying stress reduction did not vary across gender. **Conclusion:** This is the first empirical study to demonstrate a non-linear relationship between smoking and subsequent stress among a population at high risk for smoking initiation using TVEM. Information about the short-lived stress reducing effect of cigarette smoking only among heavy smokers can be used to develop more effective smoking prevention and cessation interventions tailored for this population.

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Paper Session 11

1:15 PM-1:30 PM

ROLES OF LAY HEALTH WORKERS IN PROMOTING SMOKING CESSATION FROM ASIAN AMERICAN SMOKERS AND FAMILY MEMBERS' PERSPECTIVES

Alice Guan, BA, BS¹, Janice Ka Yan Cheng, Ph.D.¹, Edgar Yu, BS¹, Nancy Burke, PhD², Tung Nguyen, MD³, Janice Y. Tsoh, PhD⁴¹University of California, San Francisco, San Francisco, CA; ²University of California, Merced, Oakland, CA; ³UCSF, San Francisco, CA; ⁴University of California San Francisco, San Francisco, CA

Background: Lay Health Worker (LHW) outreach interventions have been found to be effective in promoting health behavior change among minority, hard-to-reach populations. Our team developed a family-focused LHW outreach intervention that yielded promising outcomes in promoting utilization of smoking cessation resources, and smoking cessation among Asian American smokers. This study aimed to describe the LHWs' roles in promoting smoking cessation from the perspectives of Asian American smokers and their family members. **Methods:** We conducted content analyses on participant comments obtained from open-ended questions on follow-up surveys conducted as a part of LHW outreach smoking cessation interventions from either a single group trial or an ongoing RCT. LHWs recruited dyads (a Chinese or Vietnamese male daily smoker and a family member living in the same household), and delivered two small group educational sessions and two follow-up phone calls. The sample consisted of 124 male smokers; 124 family members (92% female); 98% foreign born; 96% limited English proficient; 47% >HS education. **Results:** Smokers and their family members perceived that LHWs played several roles, including: (1) making information understandable; (2) facilitating dialogue by creating a safe/comfortable space for meaningful conversation about tobacco use; and (3) providing support by expressing genuine concerns (emotional support), teaching about smoking cessation resources (informational support), and empowering family members to better assist their smokers to quit (empowerment). **Conclusions:** LHWs recruited participants, delivered culturally relevant health information, and provided support. LHWs played a significant role in cultivating space to facilitate support and communication between participants. Further understanding of LHW roles and the mechanisms involved in promoting smoking cessation will inform future strategies to leverage family and peer support to address tobacco-use disparities in Asian communities.

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Paper Session 12

12:30 PM-12:45 PM

PEER-DELIVERED COGNITIVE BEHAVIOR INTERVENTION REDUCED DEPRESSION AND STRESS

Monika M. Safford, MD¹, Susan Andreae, MPH¹, Joshua Richman, MD, PhD²¹University of Alabama at Birmingham, Division of Preventive Medicine, Birmingham, AL; ²University of Alabama at Birmingham, Birmingham, AL

As many as 70% of diabetic people report chronic pain, increasing risk for depression and stress, both linked to poor long-term health outcomes. While professional-delivered cognitive behavioral therapy (CBT) improves mood in individuals with chronic pain, many rural and underserved communities lack resources for such programs. We examined whether a CBT-based program delivered by trained community members can improve depressive symptoms and stress in individuals with diabetes and chronic pain.

This community-based, cluster-randomized, controlled trial engaged diabetic adults with chronic pain. The intervention (INT) group received an 8-session telephonic diabetes self-management program administered by community members over 12 weeks incorporating adaptive coping skills, setting diabetes self-management behavioral goals, stress reduction techniques, and cognitive restructuring. Controls (C) received general health advice with an equal number of contacts. Depressive symptoms and stress were assessed using validated instruments, and participants were asked about use of specific stress-reducing strategies.

The 193 participants had mean age 59±10 years, 97% were African Americans, 79% were women, 45% used insulin, and baseline mean physical functioning scores from the Short Form 12 were 38±9. At baseline and follow-up, the proportion at risk for moderate or greater depression was 42% and 16% for INT (62% relative change) and 51% and 36% for C (30% relative change), respectively (change difference p=0.02). Stress improved 2.5 ±5.8 points more in INT than in C participants (p < 0.01). At follow-up, 98% of INT participants reported use of deep breathing and 97% used exercise to reduce stress compared to 65% and 70% of C participants, respectively p < 0.001 for both).

This peer-delivered CBT program substantially improved depressive symptoms, stress, and stress reduction practices.

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Paper Session 12

12:45 PM-1:00 PM

BIDIRECTIONAL INFLUENCE BETWEEN STRESS AND DECREASED PHYSICAL HEALTH FUNCTIONING OVER 12 MONTHS IN POSTMENOPAUSAL WOMEN

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BACKGROUND: There has been a lack of research investigating the prospective associations between mental and physical health functioning over time among older, aging women. This study examined whether there was a bidirectional relationship between perceived stress and physical health functioning over 1 year among postmenopausal women. **METHOD:** Participants were 311 community-dwelling women, with mean age of 62 (SD=7.0) years, among whom 70% were White, 12% Hispanic, and 9% Asian. At the baseline, they were generally healthy, without severe chronic illness. Physical functioning was measured with 13 items from the Women's Health Questionnaire to gauge the common physical symptoms during and after menopause in three domains, including the somatic (e.g., pains, headaches, frequent urination, nausea, fatigue), vasomotor (night sweats, hot flushes), and sleep (difficulty falling asleep, early awakening) areas. Stress was measured with the perceived stress scale. Participants were evaluated at the baseline and 12 months later. All analyses with hierarchical multiple regression and structure equation modeling were adjusted for age, ethnicity, baseline status and use of hormone replacement therapy. **RESULTS:** The results showed: (1) Among perceived stress, depression and anxiety symptoms, perceived stress showed the strongest associations with physical functioning in participants; (2) Both the baseline perceived stress ($\beta = -.14, p < .001$) and the increase in perceived stress over 12 months ($\beta = -.15, p < .001$) predicted the decline of physical functioning at 12 months; (3) Both the baseline physical functioning ($\beta = -.19, p < .001$) and the decrease in physical functioning over 12 months ($\beta = -.17, p < .001$) predicted the increased perceived stress at 12 months; (4) These bidirectional prospective associations were most evident in the domain of somatic symptoms, followed by the menstrual symptoms, but not in vasomotor items. **CONCLUSION:** Results suggest that higher mental distress, especially perceived stress, and lower physical functioning appear to influence each other in a bidirectional manner over time among older, aging women. Findings highlight the importance of understanding the interplay between physical and mental health in designing interventions to advance the well-being of aging women.

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Paper Session 12

1:00 PM-1:15 PM

PERCEIVED STRESS AND WAYS OF COPING IN AFRICAN, AFRICAN AMERICAN, AND AFRO-CARIBBEAN COLLEGE STUDENTS

Willa M. Doswell, BSN, M.A., PhD., FAAN¹, Betty J. Braxter, PhD², Elisabeth Beaudouin, B.S.³¹University of Pittsburgh-School of Nursing, Harrison City, PA; ²University of Pittsburgh, Pittsburgh, PA; ³University of Pittsburgh, Philadelphia, PA

Currently, there are limited studies that have examined the presentation of perceived stress in sub groups of Black individuals living in the U.S. (Moodley, 2000; Hall, 1999). Many studies group the three distinct ethnic groups together as "Black/African American" and draw upon Western ideology to diagnose or treat these individuals. However, few studies have distinguished the possible differences in the perception of stress or use of coping strategies within the following groups of African descent: African, African American, and Afro-Caribbean. Many studies group the three distinct ethnic groups together as "Black/African American" and draw upon Western ideology to diagnose or treat these individuals. Using the Normative Theory (Taylor, Doswell, Braxter, & Tull, 2012), the purpose of this study was to investigate the possible differences in perceived stress and coping styles utilized within three ethnic groups: African immigrant (AI), African-American (AA), and Afro-Caribbean immigrant (ACI) in a sample of fifty-four 18-22 year old students attending a western Pennsylvania university.

Students completed the Perceived Stress Scale (Cohen, Karmarck, & Mermelstein (1983) and COPE Inventory (Carver, Scheier, & Weintraub (1989)). Data were analyzed using descriptive statistics, and ANOVA. The mean perceive stress score across all three groups ranged from 21 (AI) to 25 (ACI). By ethnic group, 90% of the AI students had high stress scores compared to 72% of AA and respectively 99% AIC counterparts. The most prevalent coping strategies utilized by AI students included: active coping, positive reinforcement, and religion positive reinforcement and religious strategies. AA students endorsed active coping, positive reinforcement, and acceptance. The most endorsed styles of coping by ACI students mirrored that of the AA students. Our findings suggested that the three groups are not homogeneous. Treatment strategies targeting perceived stress, and coping styles need to be tailored for each of the three ethnic groups.

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Paper Session 12

1:15 PM-1:30 PM

STRESS COPING STRATEGIES AMONG COLLEGE STUDENTS: ASSOCIATIONS WITH E-CIGARETTES AND PHYSICAL ACTIVITY

Sarah Lynch, MPH¹, Melissa Napolitano, PhD², Cassandra Stanton, PhD³¹University of Colorado, Denver, Denver, CO; ²The George Washington University, Washington, DC; ³Westat/Georgetown, Rockville, MD

Background: The use of e-cigarettes (e-cigs) has increased exponentially among young adults. E-cigs may be used as a method to relieve stress among college students. Little is known about reasons for e-cig use and the role physical activity and sedentary activities (e.g. playing video games, surfing the internet, watching TV) may play in managing stress among college students. **Methods:** College students (N=230; mean age 20.9±1.9; 68% female) completed an anonymous online survey that included questions about e-cig use, perceived stress (Perceived Stress Scale), and physical activity (International Physical Activity Questionnaire-Short form). The use of physical activity and sedentary behaviors to manage stress was assessed using a two items adapted from the APA Stress in America survey. "Ever e-cig users" were identified as any lifetime use. Chi square analysis explored the relationship between ever e-cig use and 1) using physical activity as a stress coping strategy, and 2) using sedentary activities as a stress coping strategy. One-way analysis of variance examined differences in perceived stress and minutes of weekly physical activity between "ever e-cig users" and non-users. **Results:** Ever use of e-cigs was reported by 36.5% (n=86) of the sample. "Ever e-cig users" reported significantly lower levels of perceived stress than non-users [$F(1,228) = 3.7; p < .05$]. Despite reporting lower perceived stress, "ever e-cig users" were more likely than non-users to utilize sedentary behaviors as a way to manage stress ($\chi^2 = 3.42; p < .05$). There was no significant difference between groups with regards to utilizing physical activity as a way to manage stress. Similarly, there was no significant difference in minutes of physical activity per week between "ever e-cig users" and non-users. **Discussion:** Future studies are needed to understand coping strategies in young adults and how health compromising behaviors (tobacco, substance use) and health promoting behaviors (physical activity) can impact stress management and healthy life skills on college campuses.

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Thursday
March 31, 2016
1:45 PM – 3:00 PM

Symposium 18

1:45 PM-3:00 PM

ASSESSING PHYSICAL ACTIVITY TO IMPROVE EXERCISE PRESCRIPTIONS AND REFERRALS

David E. Goodrich, EdD¹, Yvonne L. Eaglehouse, PhD, MPH², Joseph E. Donnelly, EdD³, Jennifer K. Carroll, MD, MPH⁴, Mark Stoutenberg, PhD, MSPH⁵¹Center for Clinical Management Research, VA Ann Arbor HCS, Ann Arbor, MI; ²University of Pittsburgh Cancer Institute Division of Cancer Prevention and Population Sciences, Pittsburgh, PA; ³University of Kansas Medical Center, Kansas City, KS; ⁴University of Denver – Anschutz Medical Center, Aurora, CO; ⁵University of Miami Miller School of Medicine, American College of Sports Medicine, Miami, FL

Exercise is Medicine® (EIM) is a global initiative started by the American Medical Association and the American College of Sports Medicine (ACSM) to make physical activity (PA) a first-line behavioral medicine strategy to prevent and treat many forms of disease and disability. To achieve this, clinicians require accurate and reliable PA data to offer personalized exercise counseling and follow-up support at each visit. However, recent studies underscore the challenges of assessing PA participation and making this information accessible for clinical discussions. The aims of this jointly sponsored symposium by ACSM and the Society of Behavioral Medicine are to discuss: 1) effective strategies to assess PA participation in clinical and community settings; 2) translation of PA data into patient medical records in a standardized format that is feasible to access and use; and 3) approaches that provide clinicians and exercise professionals with data that support personalized exercise prescriptions. The first panelist will present findings from a systematic review of translational studies of the Diabetes Prevention Program that examined PA measurement and outcomes reported in community-based programs and, will consider ways to better use PA assessment for interventions. The second panelist will discuss the process used to translate PA measures into a form actionable by providers in health care systems. The third panelist will review barriers to PA assessment in primary care and methods developed to use PA data in patient consultations within the 5 A's model. Finally, the discussant will then comment on the varied use of PA measures across health settings and will suggest approaches to improve the collection, standardization and use of PA data.

Symposium 18A

LEARNING FROM COMMUNITY BEHAVIORAL LIFESTYLE INTERVENTION TRIALS: MEASUREMENT AND REPORTING OF PHYSICAL ACTIVITY

Dr. Yvonne L. Eaglehouse, PhD, MPH

Health care providers are encouraged to address physical activity (PA) as a behavioral target for preventing and managing chronic health conditions as part of the Exercise is Medicine® (EIM) initiative. The evidence for EIM® comes partly from the results of international efficacy trials, including the U.S. Diabetes Prevention Program (DPP), which demonstrated that a lifestyle intervention program including goals for PA, diet, and weight loss resulted in preventing or delaying the onset of type 2 diabetes. The purpose of this presentation is to describe PA measurement and reporting in community translations of the DPP lifestyle intervention and to discuss challenges of measuring PA in community settings and the implications for improving PA measurement and reporting to help facilitate communication with the health care team. A recent systematic review by the authors identified issues of inconsistent and underreported PA methodology and results in community-based lifestyle intervention trials. Specifically, we found that 100% of community DPP-based programs included PA as one of the primary goals but only 82% of these programs measured PA and just 62% reported PA-related outcomes. Granted, PA is often challenging to measure and its interpretation can be difficult for untrained health care teams. However, ignoring PA evaluation within community-based intervention programs hinders understanding the effectiveness of these interventions and limits patient-provider communication about PA. Standards or guidelines for collecting and disseminating PA information in these community intervention programs are greatly needed to aid the communication process. PA information should be measured and presented in a way that allows clear feedback to be relayed to the health care team and the patient in order for behavioral counseling and initiatives such as EIM® to be more effective in the clinical setting.

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Symposium 18B

MONITORING PHYSICAL ACTIVITY IN A FORM THAT IS MEANINGFUL FOR PATIENTS AND PROVIDERS ENROLLED IN A WEIGHT MANAGEMENT PROGRAM

Dr. Joseph E. Donnelly, EdD

The Affordable Care Act (ACA) encourages health insurance plans, including Medicare and Medicaid, to cover many preventive services, including intensive counseling and behavioral interventions to promote sustained weight loss. The Kansas University Weight Management Program (KUMP) at the University of Kansas Medical Center is an example of how group weight management counseling and prescribed exercise under physician supervision can be used to treat obesity. The purpose of this presentation is to describe the KUMP and its application of Exercise is Medicine®. The patient's process through direct referrals from physicians, assessment, treatment, and post-program evaluation will be described. At program completion, referring physicians receive a summary statement of the patient's progress including changes in anthropometrics, biologics (i.e., blood chemistry), medication and behavior (i.e., physical activity). In addition, patient progress is also recorded in the electronic medical record (EMR). Lessons learned regarding integration of the assessment of PA into the EMR will also be shared. Specifically, the type of PA assessment utilized, how PA is monitored and discussed with the patient, as well as ways to engage the physician with the PA data via the EMR will be highlighted.

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Symposium 18C

STRATEGIES TO IMPROVE PHYSICAL ACTIVITY ASSESSMENT, COUNSELING, PRESCRIPTION, AND REFERRAL IN PRIMARY CARE

Dr. Jennifer K. Carroll, MD, MPH

The Patient Centered Medical Home (PCMH) initiative has created a resurgence of interest in helping primary care patients change health behaviors. The PCMH standards include key elements to “support self-care” (e.g., counseling for at least 50% of patients to adopt healthy behaviors). Despite this major development, primary care remains challenged to translate promising physical activity (PA) interventions into practice. This presentation will highlight examples to address translational challenges related to physical activity counseling, assessment, and referral in underserved populations, drawing from a series of primary care-based research projects. The first project was a study to improve the quality and frequency of physical activity counseling using patient-centered communication and the 5As (Ask, Advise, Agree, Assist, Arrange) model. The study was efficacious in improving some As but not others. The second study developed and evaluated new electronic health records (EHR) tools and resources to promote PA assessment and referral. The EHR tool designed to systematically assess PA as a vital sign proved challenging; however, the referral tool was extremely successful in its adoption, exceeding benchmarks set a priori by three-fold. The third project, currently underway, is using a group medical visit model co-facilitated by primary care and community partners, to promote physical activity via tailored prescriptions and referrals to accessible community resources. Findings will be presented on the curriculum materials, PA prescription, and EHR templates as well as the evaluation of intervention implementation using an evidence-based implementation framework. Results from these studies will be framed within the Exercise is Medicine model to illustrate the growing importance of translating behavioral medicine interventions into primary care to optimize patient outcomes.

Symposium 19

1:45 PM-3:00 PM

ENHANCING DIABETES PREVENTION PROGRAM TRANSLATION THROUGH PARTNERSHIP: KEY LESSONS & OPPORTUNITIES IN DIVERSE CARE SETTINGS

Tannaz Moin, MD, MBA, MSHS¹, Mona AuYoung, PhD, MS, MPH², Jeffery A. Katula, Ph.D., MA³, Lisa Schilling, RN, MPH⁴, Andrea Kriska, PhD, MS⁵

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Rates of diabetes are increasing alongside the high rates of obesity in this country. The management of diabetes is complex and expensive, so diabetes prevention is key to minimizing the already-ballooning health care costs and to improve population health. There have been a number of successful randomized clinical trials, including the Diabetes Prevention Program (DPP) Study, showing intensive lifestyle interventions can prevent or delay incident diabetes among adults with prediabetes. Since 37% of US adults now have prediabetes, meaningful translation of the DPP is more critical than ever. There are numerous ongoing efforts to translate DPP into practice across health systems, communities, counties, and states under a national initiative led by the Centers for Disease Control and Prevention (CDC). The goal of this symposium is to highlight these ongoing translational efforts across diverse care settings to provide insight into key lessons and new opportunities for translating the DPP. In addition, this symposium will also highlight research partnerships with policymakers or community organizations that have facilitated the translation and dissemination of the DPP. Partnered research can be a powerful strategy for accelerating evidence-based findings into practice. Efforts to enhance DPP translation through partnership will be discussed across 3 diverse care settings including: 1) DPP translation for Veterans, highlighted by Mona AuYoung, Tannaz Moin and Caroline Richardson along with leadership from the VA's national program office including Michael Goldstein; 2) DPP translation in community settings by community organizations and community members, highlighted by Jeffery Katula and colleagues, and 3) DPP translation in the state of Georgia by Kaiser, highlighted by Lisa Schilling and colleagues. Dr. Andrea Kriska, an original DPP investigator and expert in physical activity and DPP translational research, will also provide key insights and help moderate an engaging group-based discussion.

Symposium 19A

DPP TRANSLATION IN VETERANS HEALTH ADMINISTRATION: IN-PERSON AND ONLINE MODULES

Mona AuYoung, PhD, MS, MPH

This presentation will describe a successful research partnership to facilitate a multi-site DPP clinical demonstration and pragmatic evaluation within a healthcare system. Obesity and obesity-related conditions, such as diabetes, are a major issue for Veteran health. Veterans Health Administration (VA) researchers and decision makers (health system leaders such as program leaders and policy makers) have worked separately and together to provide more effective weight management programs for Veterans. Although randomized clinical trials are often considered the gold standard for research, pragmatic clinical trials can provide more agility for translating research. VA researchers and decision makers collaborated in designing a practical clinical trial to compare the Diabetes Prevention Program (DPP) to usual care (VA MOVE!) in promoting weight loss and glycemic control among Veterans with prediabetes. Together, the researchers and decision makers navigated the fine line between quality improvement and research, facing challenges with funding, research design, and timing but with significant rewards. This presentation will discuss these challenges in implementing the DPP within a large health system as well as the benefits of having research partners within the national program office in terms of dissemination.

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Symposium 19B

TRANSLATING DIABETES PREVENTION: LESSONS FROM THE HEALTHY LIVING PARTNERSHIPS TO PREVENT DIABETES (HELP PD) STUDY

Dr. Jeffery A. Katula, Ph.D., MA

The purpose of this presentation is to discuss the translational approach of Healthy Living Partnerships to Prevent Diabetes (HELP PD) and to identify lessons learned that may aid in future translational diabetes prevention efforts. HELP PD began as a single site RCT that tested a community-based translation of the original Diabetes Prevention Program (DPP) and was designed to maximize the use of existing community resources and minimize the reliance on research-related infrastructure to enhance sustainability and dissemination potential. We established partnerships with community health workers, local businesses, community settings, and an established diabetes care center. Results showed that adults with prediabetes randomized to a 24-month lifestyle weight loss program experienced significantly greater decreases in body weight, fasting blood glucose, waist circumference, and other cardiovascular risk factors as compared to an enhanced usual care comparison group. Additionally, we found that the HELP PD intervention per capita cost about one-third of the original DPP. Due to the success of HELP PD, we have established additional partnerships with the State of North Carolina and have conducted preliminary work to demonstrate that HELP PD can be delivered in rural county health departments (CHDs). The results suggest that rural CHDs can successfully implement a diabetes prevention program and achieve the CDC National Diabetes Prevention Recognition Program standards. Several lessons have been learned throughout our translational process, including study design issues, competing goals across partnership members, conceptual/theoretical issues, and challenges associated with community-based implementation. Ongoing research based on HELP PD will provide insight into community-based implementation and dissemination processes and efforts to tailor diabetes prevention programs to target specific populations to decrease health disparities.

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Symposium 19C

DPP TRANSLATION IN DISTINCT US REGIONS BY KAISER

Ms. Lisa Schilling, RN, MPH

Leadership from Kaiser Permanente's Healthcare Performance Improvement will describe a multimodal design for pre-diabetes identification, referral and follow up connecting the clinical screening to DPP interventions. Over 1000 individuals in three distinct populations in various U.S. Regions were identified and offered DPP in person and on-line. This presentation will describe the populations, interventions, uptake, results and potential future impact of a population based prevention approach using DPP. This presentation will also highlight how quality improvement (QI) planning can be used to address population based DPP interventions to produce better health and personalize interventions, as well as important clinical challenges that can arise from proactive prevention.

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Symposium 20

1:45 PM-3:00 PM

REACHING THE HARD TO REACH POPULATIONS: USE OF TELEHEALTH FOR SUBSTANCE USE AND RELATED OUTCOMES RESEARCH

Gerald W. Talcott, Ph.D.¹, Michael G. Mejia, B.A.², Karen Derefinko, Ph.D.³, Melissa Little, Ph.D.³, Robert Klesges, Ph.D.³

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Substance use and associated adverse health outcomes account for an enormous part of health care costs in the United States. Data from the National Survey on Drug Use and Health survey suggests that over 20 million people aged 12 or older meet criteria for an alcohol or substance use disorder within the past year. An additional 56 million Americans are current cigarette smokers, leading to high rates of lung cancer. Unfortunately, those at highest risk for adverse outcomes also tend to be the individuals hardest to reach with prevention and intervention practices. These populations often include individuals from disadvantaged or rural backgrounds, but can also include individuals who are in circumstances that make them difficult to contact or retain in ongoing prevention or treatment programming, such as displaced individuals or those in the United States Military who are deployed. A number of advances have been made to behavioral health practices regarding how to improve outcomes for underserved populations. One emerging solution for difficult to reach populations is the use of telehealth technology to support long-distance healthcare. By *delivering* health-related services via telecommunications technologies, providers hope to close the gap between practitioners and patients, and to provide consistency in care to those who are traditionally unable to adhere to ongoing treatment programs. This symposium reflects different facets of telehealth research in the area of substance use outcomes research. We will present research regarding the barriers to the use of telehealth systems, the exploration of effectiveness of telehealth as compared with traditional forms of treatment, and examine specific uses of telehealth to promote smoking cessation in individuals who are unlikely to complete treatment. The presenters will highlight the benefits of the use of telehealth technology for substance use outcomes research, as well as the drawbacks that come with the use of this methodology.

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Symposium 20A

EXPLORING BARRIERS TO TELEHEALTH USE AMONG EARLY-STAGE LUNG CANCER SURVIVORS IN RURAL APPALACHIA

Mr. Michael G. Mejia, B.A.

Lung cancer (LC) is the leading cause of cancer-related death in the United States, surpassing the next three most common causes of cancer death combined. While the 5-year survival rate has been estimated at 17%, recent changes in LC screening guidelines are expected to improve detection of early-stage disease and reduce mortality. LC disproportionately affects survivors in Kentucky's Appalachian region, who experience higher mortality rates and poorer health outcomes compared to their urban counterparts. Rural survivors also face unique challenges such as economic hardship, geographic isolation, and limited access to health services. With nearly 2.8 million cancer survivors living in rural areas, these data suggest a large number of survivors with unmet needs. Telehealth (TH) involves the use of communication technology to provide health services and overcome geographic barriers. While the reported efficacy of TH provides compelling evidence for use with rural survivors, it remains unclear whether this population would be receptive to TH. Survivors of early-stage LC were identified by the Kentucky Cancer Registry (N=47; mean age=67). Rural-urban Continuum Codes were used to ensure rural residence. Participants completed a mailed questionnaire assessing perspectives regarding TH for survivorship services. When measured on a 1-5 scale, participants endorsed positive attitudes (responses 4-5) toward TH for information about their illness (54%), accessing health services from home (48%), and supportive care (38%). Concerns were raised that TH may be too sophisticated (50%) or not helpful (33%). Survivors reported 2.4 hours of daily internet use on average. TH may be an option to extend the reach of survivorship care into rural and Appalachian regions, or other hard-to-reach populations. Implications and suggestions regarding receptivity and potential barriers will be discussed.

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Symposium 20B

COMPARATIVE EFFECTIVENESS OF ALTERNATIVE BRIEF INTERVENTION FORMATS FOR BINGE DRINKING

Dr. Karen Derefinko, Ph.D.

Binge drinking is a common form of alcohol abuse among young adults. Up to 45% of 21- to 25-year-olds in the United States report engaging in regular binge drinking, making this one of the most common forms of problematic substance use. In effort to address binge drinking, a number of brief interventions have been developed. Most brief interventions have been tested in a face-to-face, individual format. Face-to-face interventions are intensive and personal, allowing for an alliance between the provider and consumer that likely improves treatment outcome. However, face-to-face interventions have several notable limitations to success, including large costs to the provider and patient, as well as adherence issues and barriers to intervention (e.g., patients' need to travel to the treatment location). In response to these limitations, different formats for treatment provision have been examined, including telephonic and internet-based. These interventions can be the same in content to face-to-face brief interventions, but are delivered in ways that are more likely to be accessed by a wide range of individuals at risk, such as those from low socioeconomic backgrounds and those who are unlikely to adhere to supportive treatment, including young adults. This presentation will examine the costs and benefits of these three modalities of treatment, as well as provide effect sizes among existing studies of comparative effectiveness across formats. While there are considerable cost savings to internet-based programs, the alliance forged through face-to-face and telephonic programs appears to improve both adherence and alcohol use outcomes, suggesting that technologically advanced treatments can work, but should be tailored to the patients' needs and behaviors to ensure the patient feels the treatment is specific to their situation.

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Symposium 20C

DEVELOPING TELEPHONIC INTERVENTIONS FOR UNDERSERVED SMOKING POPULATIONS

Melissa Little, Ph.D.

Tobacco quitlines are efficacious and have become one of the de facto dissemination mechanisms for smoking cessation interventions. At this time, all 50 states in the U.S. have quitlines that are funded through state governments and trusts with additional funding from the Centers for Disease Control and Prevention. This presentation examines the use of quitline services in two specific populations of smokers that have traditionally been difficult to reach and retain: Military and smokers not ready to quit. The Freedom Quitline, a research study jointly conducted by the University of Tennessee Health Science Center and Lackland Air Force Base, San Antonio, explores the use of Telehealth to reach individuals who are Department of Defense Tricare beneficiaries interested in quitting smoking. The benefits of utilizing a Telehealth format for this population will be described in detail, highlighting potential improvements in adherence and retention due to the flexible nature of the Telehealth format. A similar format is being undertaken in smokers not ready to quit, a population of individuals not prepared to quit, but who may be contemplating changes in their smoking habits in the future. The intervention proposed tests four combinations of treatment to evaluate the independent and additive effects of motivational interviewing and rate reduction on quit attempts and smoking cessation. Currently, telephonic tobacco interventions serve the 10% of the smoking population who are ready to quit. This study, with cost effective and easily disseminable interventions, could expand quitlines by treating the vast majority of smokers who are not ready to quit at the present time.

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Symposium 21

1:45 PM-3:00 PM

STIGMA IN RELATIONSHIP CONTEXTS: IMPLICATIONS FOR BEHAVIORAL HEALTH RESEARCH

Valerie A. Earnshaw, PhD¹, Lisa Rosenthal, PhD², Kristi E. Gamarel, PhD³, Sarabeth Broder-Fingert, MD, MPH⁴

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Stigma (social devaluation and discrediting) is experienced within relationship contexts in several key ways. When one member of a relationship is stigmatized, the other member may experience stigma due to their association with the stigmatized individual. Parents of children with behavioral and physical health conditions may experience this *associative stigma*. Additionally, relationship members may experience stigma due to the nature of their relationship. Interracial and same-sex couples may experience this *relationship stigma*. Although understudied within stigma and behavioral health research, associative and relationship stigma have important implications for health behaviors and outcomes of relationship members. This symposium brings together four diverse presentations on stigma in relationship contexts to spotlight advances in this area of research and stimulate ideas for future research. Presenters will focus on several important relationship types (parent-child, romantic) and a variety of stigmas (race, gender identity, sexual orientation, substance use disorders, autism spectrum disorder). They draw on qualitative and advanced quantitative analyses (including dyadic analyses) to explore the impact of associative and relationship stigma on a range of health behaviors and outcomes (treatment adherence, substance use, depressive symptoms) among relationship members. Discussion will focus on the importance of studying and intervening in stigma in relationship contexts to improve the health of people experiencing associative and relationship stigma.

Symposium 21A

STIGMA AND SUBSTANCE MISUSE: PERSPECTIVES OF YOUNG PEOPLE IN TREATMENT AND THEIR CAREGIVERS

Dr. Valerie A. Earnshaw, PhD

Substance misuse is deeply stigmatized (socially devalued and discredited) in the U.S. Young people with substance use disorders (SUDs), including adolescents and emerging adults, may experience enacted stigma (past experiences of discrimination from others), anticipated stigma (future expectations of discrimination from others), and/or internalized stigma (endorsement of negative beliefs and feelings associated with substance misuse, and applying them to the self). Parents and caregivers may also experience perceived, anticipated, and internalized stigma due to their child's SUD. Although understudied, stigma experienced by both young people and their parents may ultimately undermine successful treatment of young people with SUDs. The current study explored experiences of stigma among 17 young people (aged 13-25) receiving SUD treatment (ranging from marijuana and alcohol to opioid use disorders) and 14 caregivers via qualitative interviews. Results of data analyses suggest that many young people and caregivers in this sample experience enacted and anticipated as well as internalized stigma. Young people reported enacted stigma from family members including siblings and stepparents ("my stepfather called me a drug addict"), and anticipated stigma from future dating partners ("any sane person wouldn't date someone who is in treatment"). They also reported internalized stigma ("I kind of went through a really depressed time and I thought it made me like a terrible person"). Caregivers reported enacted and anticipated stigma from community members ("I think there could be some ostracism if people were aware") and internalized stigma ("there is part of me that says I must be the worst mother in the universe, because look at all the problems my kids are having"). Findings suggest that stigma experienced by both young people with SUDs and their caregivers may undermine SUD treatment success by contributing to stress and undermining social support.

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Symposium 21B

CONSEQUENCES AND BUFFERS OF RELATIONSHIP STIGMA FOR MENTAL HEALTH AMONG ADULTS IN INTERRACIAL AND/OR SAME-SEX RELATIONSHIPS

Dr. Lisa Rosenthal, PhD

In the U.S., interracial and same-sex romantic relationships are increasingly common and accepted socially. Yet, stigmatization of these relationships persists, with negative consequences for relationship and mental health outcomes. We aimed to build on and extend past research to examine consequences of relationship stigma from different sources for mental health outcomes and to examine potential buffers.

We collected survey data online with U.S. adults in interracial and/or same-sex relationships, and 511 participants completed all measures of interest (303 in interracial, heterosexual relationships, 112 in same-sex, same-race relationships, 96 in interracial, same-sex relationships; 274 identified as female, 232 as male, 3 as transgender, 2 as other; 298 identified as White, 68 as multiracial/ethnic, 63 as Asian, 46 as Black, 32 as Latino, 1 as Middle Eastern; mean age=30.59 years, $SD=9.75$).

Regression analyses found while controlling for age, cohabitation status, relationship length, and individually-experienced discrimination, relationship stigma from friends was significantly positively associated with depressive symptoms ($\beta=.18$, $p=.10$, $p=.07$) and significantly positively associated with anxiety symptoms ($\beta=.12$, $p=.04$). Additional regression analyses found egalitarianism moderated the associations of relationship stigma from public with depressive symptoms ($\beta=-.12$, $p=.05$) and anxiety symptoms ($\beta=-.16$, $p=.02$), and dyadic coping moderated the association of relationship stigma from family with depressive symptoms ($\beta=-.15$, $p<.01$).

Findings support that relationship stigma from family and friends in particular may have important consequences for mental health in individuals in stigmatized relationships. Further, egalitarianism and dyadic coping may serve as protective factors that buffer from adverse effects of relationship stigma on mental health, suggesting their potential utility for intervention.

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Symposium 21C

PARTNER DISCREPANCIES IN RELATIONSHIP STIGMA PREDICT SUBSTANCE USE OUTCOMES IN TRANSGENDER WOMEN AND THEIR MALE PARTNERS

Dr. Kristi E. Gamarel, PhD

Background: Stigma experienced by individuals in romantic relationships can have a detrimental effect on couples' well-being. However, partners may vary in their perceptions of stigma, and such discrepancies may lead to worse outcomes. The purpose of this study was to examine whether partners' individual reports of relationship stigma, as well as within-couple discrepancies, were associated with heavy alcohol and stimulant use.

Methods: A community sample of 191 transgender women and their non-transgender male partners completed a one-time survey (mean age 37.1; 79.1% racial/ethnic minority; 61.3% earned years). Actor-partner interdependence models (APIM) were fit to examine the effects of relationship stigma, as well as sum and difference relationship stigma scores, on both partners' reports of heavy alcohol and stimulant use, adjusting for relevant covariates. Adjusted odds ratios (AOR) and 95% Confidence Intervals (95%CI) were estimated. **Results:** Significant actor effects for higher relationship stigma were associated with male partners (AOR=1.05, 95%CI: 1.01, 1.11) and transgender women's (AOR=1.06, 95%CI: 1.00, 1.13) stimulant use, as well as male partners' alcohol use (AOR=1.04, 95%CI: 1.00, 1.10). Larger discrepancies in couples' relationship stigma were associated with an increased odds of transgender women reporting stimulant use (AOR=1.05, 95%CI: 1.01, 1.08) and male partners reporting alcohol use (AOR=1.03, 95%CI: 1.01, 1.10). **Conclusions:** Findings highlight the importance of considering the ways in which stigmatizing contexts impact couples' substance use behaviors. Future research and couples-based intervention approaches will be discussed to contextualize how couples cope with minority stressors.

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Symposium 21D

ANTICIPATED STIGMA IN PARENTS OF CHILDREN WITH AUTISM SPECTRUM DISORDER

Dr. Sarabeth Broder-Fingert, MD, MPH

Patients with a variety of mental health disorders report high levels of stigma when attempting to access medical care. However, little is known about stigma specifically in parents of children with autism spectrum disorder (ASD), which may lead to distress and undermine key healthcare-seeking behaviors among parents critical to their children's well being. The purpose of this study was to examine what percent of parents of children with ASD experience anticipated stigma from healthcare workers, and to identify factors associated with anticipated stigma. A sample of 110 parents of children with ASD who were admitted to MassGeneral Hospital for Children from 2011-2013 completed the Healthcare Workers Subscale of the Chronic Illness Anticipated Stigma Scale (HWS-CIASS) and a measure of autism severity. Children's mean age was 12.1 years. The majority of children were male (88.0%) and white (93.5%). Multivariable regression analysis was used to examine the effects of autism severity on anticipated stigma. Parents of children with ASD reported high rates of anticipated stigma with 66.4% reporting concern that "A healthcare worker will be frustrated with my child" and 32.7% reporting concern that "A healthcare worker will give my child poor care". In multivariable logistic regression analysis, greater autism severity was associated with greater stigma scores (AOR=1.09, 95%CI: 1.05, 1.19, p

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Symposium 22

1:45 PM-3:00 PM

INNOVATIVE ANALYTIC STRATEGIES FOR ECOLOGICAL MOMENTARY ASSESSMENT (EMA) DATA IN HEALTH BEHAVIOR RESEARCH

Jaclyn P. Maher, Ph.D.¹, Genevieve F. Dunton, PhD, MPH¹, Donald Hedeker, Ph.D.², William Riley, Ph.D.³

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Physical activity, sedentary behavior, eating and smoking are dynamic health behaviors that fluctuate over time in response to a variety of temporal processes including but not limited to the social calendar, seasonal changes, and time-varying motivational and affective antecedents. Thus, to truly understand these health behaviors research needs to employ methods that capture these psychosocial and behavioral processes as they are unfolding in real time. Ecological Momentary Assessment (EMA) represents a promising method for advancing our understanding of health behavior change because this method allows researchers to assess behavior as it occurs naturally in the context of daily life. Employing EMA results in large amounts of intensive longitudinal data and advanced statistical models are needed to not only describe detailed behavioral patterns but also the relationships between health behaviors and relevant factors. This symposium will highlight three innovative analytic strategies applied to EMA data to better understand the underlying processes of behavior change as it occurs in situ. The first presentation will apply dyadic analyses (i.e., actor partner interdependence model) to EMA data to test the dyadic effects of stress on activity and eating behaviors in mothers and children. The second presentation will highlight the use of, time-varying effects modeling to describe changes in the relationship between behavioral cognitions and physical activity in adults as a function of time of day. The third presentation will apply mixed-effect location scale modeling to EMA data to determine the role of average smoking level as well as subject-level variation in smoking level as a predictor of time to first cigarette each day in adolescents. Overall, these presentations reveal both the promise and reward of applying innovative analytic strategies to ecological momentary methods for advancing our understanding of the processes underlying health behavior change. The discussant will address both the specific contributions of these presentations and the broader role of applying innovative analytic strategies to EMA data in advancing the science of health behavior change.

Symposium 22A

WITHIN-DAY TIME-VARYING ASSOCIATIONS BETWEEN BEHAVIORAL COGNITIONS AND PHYSICAL ACTIVITY IN ADULTS

Jaclyn P. Maher, Ph.D.

Emerging evidence suggests that both behavioral cognitions (e.g., intentions, self-efficacy, outcome expectations) and physical activity (PA) fluctuate over the course of the day. However, there has yet to be an examination of how the associations between behavioral cognitions and PA change as a function of time of day. This presentation will apply time-varying effect modeling to Ecological Momentary Assessment (EMA) data to examine time of day differences in how behavioral cognitions predict subsequent PA over the next two hours. Community dwelling adults (n=116) participated in three separate 4-day measurement bursts of EMA by mobile phone during which they were prompted with eight EMA questionnaires per day assessing behavioral cognitions. Participants wore an accelerometer during all waking hours to assess PA. Subsequent PA was operationalized as activity counts in the two hours following the EMA prompt. Results revealed that only during specific intervals were behavioral cognitions and subsequent PA significantly related on weekdays and weekend days. On weekdays, intentions positively predicted subsequent PA between 8:20am and 11:30am ($b_{\text{range}}=0.18-3.36$) and 5:25pm and 8:45pm ($b_{\text{range}}=0.04-2.82$). In addition self-efficacy positively predicted subsequent PA between 8:55am and 11:05am ($b_{\text{range}}=0.15-1.44$), and outcome expectations positively predicted subsequent PA between 8:20pm and 8:40pm ($b_{\text{range}}=0.03-0.10$). On weekend days, intentions positively predicted subsequent PA between 4:10pm and 10:00pm ($b_{\text{range}}=0.17-5.37$) and outcome expectations positively predicted subsequent PA between 9:20am and 10:10am ($b_{\text{range}}=0.20-0.40$). Self-efficacy was unrelated to subsequent PA across weekend days. Previous work has made the assumption that behavioral cognitions uniformly influence subsequent PA across the day or across days; however, this study demonstrates changes in the associations between behavioral cognitions and subsequent PA across the day. This is the first study to observe this and is significant because it identifies windows of opportunity and vulnerability for motivation-based PA interventions aiming to deliver intervention content within the context of adults' daily lives.

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Symposium 22B

DYADIC ANALYSIS OF TIME-INTENSIVE DATA EXAMINING THE EFFECTS OF STRESS ON ACTIVITY AND EATING IN MOTHERS AND CHILDREN

Dr. Genevieve F. Dunton, PhD, MPH

Daily psychosocial stress may influence physical activity and eating dynamically within and between mothers and children. However, few studies have applied time-intensive data capture strategies such as Ecological Momentary Assessment (EMA) to understand these interpersonal transactions. This presentation will describe methods for the dyadic analysis of EMA data from 168 mothers and their 8-12 year old children. A smartphone app collected EMA data across 7 days, with up to 7 random EMA prompts per day per member of the dyad. EMA assessed whether sedentary screen behavior (e.g. TV, videos), physical activity (e.g., sports, exercise), or unhealthy eating (e.g., sweets, soda) had occurred in the past 2 hours; and current feelings of stress. An Actor Partner Interdependence Model tested the dyadic effects of stress on activity and eating behaviors. Data were analyzed through multilevel models (days=level 1 nested within subjects=level 2), examining within-subjects (WS) and between-subjects (BS) effects of stress reported by the actor (i.e., self) and partner (i.e., other member of the dyad) on activity and eating outcomes. Interactions tested whether these effects differed between mothers and children. Results for sedentary screen behavior will be presented as an example. On days when mothers and children reported higher stress than usual, their own sedentary screen behavior was lower (WS $\text{coef.} = -0.05$, $p = .002$). However, neither mothers' nor children's stress, on any given day, was related to their partners' sedentary screen behavior. At the subject level, mothers and children whose partner reported higher stress, on average, engaged in more sedentary screen behavior themselves (BS $\text{coef.} = 0.07$, $p = .038$). Mothers and children differed in how average stress was related to their own sedentary screen behavior (BS interaction $\text{coef.} = 0.12$, $p = .046$). Mothers who reported higher stress, on average, engaged in less sedentary screen time (BS $\text{coef.} = -0.10$, $p = .005$) whereas this effect was not significant for children. This presentation will conclude by discussing the strengths and challenges of using dyadic analytic methods with EMA data collected through large-scale epidemiological and intervention studies.

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Symposium 22C

A MIXED-EFFECTS LOCATION SCALE MODEL FOR INTENSIVE LONGITUDINAL DATA: EXAMINING THE MEAN AND VARIANCE OF TIME TO FIRST CIGARETTE

Donald Hedeker, Ph.D.

Intensive longitudinal data are increasingly obtained in health studies to examine subjective experiences within changing environmental contexts. Such studies often utilize ecological momentary assessment (EMA) and/or experience sampling methods to obtain up to 30 or 40 observations for each subject within a period of a week or so. In this presentation, we focus on data from an adolescent smoking study using ecological momentary assessment in which there was interest in examining the time to first cigarette in a day, a reported marker of smoking dependency. Specifically, we examine whether this outcome was related to an adolescent's smoking level, both in terms of the mean and the within-subject variance using a mixed effects location scale model as implemented in the software program MIXREGLS. The mixed-effects location scale model simultaneously models the mean, between-subject (BS) and within-subject (WS) variance, and includes random subject effects for both the mean (location) and within-subject variance (scale). The analyses indicated that subjects with increased smoking level smoke, on average, earlier in the day, and also were more consistent (lower WS variance) in their time of first cigarette. Consistency in time to first cigarette may be a more meaningful marker of dependency in adolescents, who may not always have as much control over their environment or freedom to smoke at will. These mixed-effects location scale models have useful applications in many research areas where interest centers on the joint modeling of the mean and variance structure.

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Symposium 23

1:45 PM-3:00 PM

MISTRUST AND HEALTH INEQUITIES: AN EMERGENT ISSUE

Adolfo Cuevas, PhD¹, Pamela Valera, PhD², Daniel López-Cevallos, PhD, MPH³, Adolfo Cuevas, PhD¹, Ramona Benkert, PhD, ANP-BC, FAANP⁴

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Inequities in healthcare continue to exist for members of marginalized groups in the United States. The Affordable Care Act addresses these disparities by providing people with access to healthcare services. For members of marginalized groups, however, several factors including mistrust toward healthcare institutions and providers play an important role in the actual process of receiving care. The panelists will present new research in the area of mistrust: 1) The impact of mistrust toward medical providers on smoking behavior among formerly incarcerated Black and Latino males; 2) The influence of medical mistrust and perceived discrimination on healthcare outcomes among young adult rural Latinos/Latinas; 3) The association of racial identity and perceived healthcare discrimination with both physician mistrust and medical mistrust among African Americans living in a predominantly White city. The panel will present findings and suggest insights into the dynamics of medical and physician mistrust. After presentations and discussion comments, panelists and audience members will discuss potential new questions for research and for behavioral interventions, as well as potential new directions for policy to improve trust within Black and Latino/Latina communities.

Symposium 23A

AN EXAMINATION OF THE GROUP-BASED MEDICAL MISTRUST SCALE IN BLACK AND LATINO MALE SMOKERS WITH CRIMINAL JUSTICE BACKGROUNDS

Pamela Valera, PhD

Introduction: While there is a growing public health and social science literature on medical mistrust in racial and ethnic minorities, research on mistrust toward medical providers among Black and Latino male smokers with criminal justice backgrounds remains scant. The aim of this study was to validate and assess the psychometric properties of the Group-Based Medical Mistrust Scale (GBMMS) for use among formerly incarcerated men in New York City, and to examine the association between medical mistrust and frequency of cigarette smoking. Methods: This cross-sectional, exploratory study utilized a purposive sample of 259 male respondents. The majority of the participants (76%) reported cigarette smoking upon release to the community. Results: The mistrust scores ranged from one to five and the mean mistrust score was 2.36 (SD = .99). This mean was similar to previous studies that used the GBMMS measure. However, results of the confirmatory factor analyses suggest the items fit best onto two factors, which was different from the three factors found in the original scale. Two dimensions emerged as important subscales: discrimination and suspicion. Additionally, the frequency of cigarette smoking was statistically associated with discrimination, but not suspicion. Conclusion: Our findings demonstrate that the GBMMS can be a reliable tool to discern medical trust levels among formerly incarcerated men of color. These results are relevant to developing behavioral interventions in smoking cessation of formerly incarcerated men and point to the urgent need for understanding how male smokers across the criminal justice spectrum perceived trust of medical health providers. Eliminating medical mistrusts as a barrier may be an important first step toward eliminating health disparities experienced by criminal justice populations of color.

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Symposium 23B

MEDICAL MISTRUST, PERCEIVED DISCRIMINATION AND ACCESS TO CARE AMONG RURAL LATINOS

Dr. Daniel López-Cevallos, PhD, MPH

According to the 2010 Census, Latinos constitute largest racial/ethnic minority in the United States. Latinos are also the youngest group, with a median age of 27. In the last two decades, Latinos have increasingly settled in “non-traditional” rural areas across the country with little to no support systems. The complex U.S. health care system make obtaining health care and services particularly challenging for racial/ethnic minorities and immigrant populations. Racial/ethnic healthcare disparities arise in the context of social and economic inequalities, including racial and ethnic discrimination and mistrust. However, little research has analyzed mistrust and discrimination influencing health care outcomes among Latinos, particularly those living in rural areas. Using the Behavioral Model of Vulnerable Populations as our guiding theoretical framework, we examined the associations between medical mistrust, perceived discrimination, and satisfaction with health care among young-adult rural Latinos. Our sample included 387 young-adult Latinos living in rural Oregon who participated in a larger project, Proyecto de Salud Para Latinos. In ordered logistic regression models, medical mistrust and perceived discrimination were independently associated with satisfaction with health care, adjusting for other covariates. These results suggest that, although medical mistrust and perceived discrimination are prevalent, they may have a more significant impact on satisfaction with services provided rather than the number of visits. It should be noted that, by design, our study excluded participants who never used health care services. Despite study limitations, we contribute to the broader literature documenting the pervasive effects of medical mistrust and perceived discrimination on racial/ethnic disparities in access to and quality of care.

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Symposium 23C

PERCEIVED DISCRIMINATION AND MISTRUST: DOES RACIAL IDENTITY PLAY A ROLE?

Dr. Adolfo Cuevas, PhD

Mistrust in healthcare is associated with lower use of healthcare services and lower adherence to treatment among patients who are African Americans. Past experiences of discrimination may help explain why African Americans may be reluctant to trust healthcare and healthcare providers. However, some African Americans may also be more vulnerable to perceptions of discrimination than others. Perceived discrimination may be more strongly related to mistrust toward healthcare and providers for African Americans who identify strongly with their own racial group (racial centrality) and feel that others view their group negatively (unfavorable public regard). Our study addressed this issue. Upon conducting a cross-sectional, survey data collection with African American community members in Portland, Oregon (N=220, median age = 40, 45.3% women), we used multiple linear regression to test the relationships among racial identity (i.e., racial centrality and public regard), perceived discrimination, and mistrust (i.e., medical mistrust which is mistrust of healthcare in general, and mistrust of one's own physician). We found that racial centrality and unfavorable public regard were positively associated with mistrust of healthcare in general, while perceived discrimination was positively associated with both mistrust of healthcare in general and mistrust of one's physician. Racial centrality, but not unfavorable public regard, was positively associated with perceived discrimination. Results suggest that effects of racial identity may be context-specific in healthcare. Racial identity may be salient during general healthcare experiences, but may not play a significant role in the doctor's office. Psychosocial interventions aimed at reducing discrimination-related stress might help to reduce the negative health consequences of discrimination especially for African Americans who are more vulnerable to experiences of discrimination.

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Symposium 24

1:45 PM-3:00 PM

IMPROVING PALLIATIVE CARE: RESEARCH ON METHODS AND MODELS

Amy Wachholtz, PhD, MDiv, MS¹, Lara Dhingra, PhD², Jean L. Kristeller, Ph.D.³, Christina M. Puchalski, MD, FACP, FAAHPM⁴

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Palliative Care incorporates multiple specialty areas of behavioral medicine including pain, spirituality, cancer, and aging. There is increased recognition of the value of palliative care psychologists in medical care. As palliative service expands, treatment teams change in composition, and models of patient care and practitioner self-care develop, there are many questions regarding how to best provide efficient, and quality care. This symposium presents research on the value and challenges of different models of palliative care.

In the first presentation will examine the role of patient experience in the development of future palliative care models. The “Patient as Teacher” model uses a mixed method approach as teaching tools for current and future health care providers. Participant's engagement in legacy teaching tools for future providers improves both current palliative care patients' sense of wellbeing as well as benefiting future palliative care.

The second study presentation will describe the feasibility and effectiveness of a community multi-disciplinary “high-touch” treatment model of palliative care for homebound patients. It will examine patient characteristics and care delivery in a novel palliative care model. Home based palliative care programs may improve patient quality of life.

The third presentation describes research into changing a model to maintain the mental health of practitioners under the high stress of palliative care services. Through the GTTR reflective rounds program, practitioners are encouraged to intentionally engage in self-care, which reduced burnout and improved compassionate care delivery even under high stress clinical situations.

Our discussant will examine how this research into the changing models of palliative care may affect the future trajectory of palliative care service delivery for both practitioners and patients. Each of these presentations will examine key aspects of palliative care to inform the future of palliative care research and clinical practice.

Symposium 24A

CREATING PALLIATIVE CARE: LEGACY TEACHING VIDEOS BY ADVANCED CANCER PATIENTS

Dr. Amy Wachholtz, PhD, MDiv, MS

Life review on quality of life for seriously ill patients is well described. It is unknown whether creating legacy teaching videos for healthcare providers about the “cancer patient” experience is meaningful to patients. This study describes the impact of creating legacy palliative care teaching videos on the well-being of patients with advanced cancer. **Methods.** Adult patients (N=10) with advanced cancer and an ECOG score 0-3 were recruited from an academic medical center. Participants completed interviews that were video recorded using a semi-structured interview. Each interview lasted 1-1.5 hours and addressed the lived experience of being a “palliative care patient,” coping, and how clinicians could improve palliative care for future patients. Participants then completed a follow up session with viewing of the interview video. Mixed methodology assessed the effect of this process on participants' health and well-being using grounded theory for qualitative data. Pre-post data included Hospital Anxiety and Depression Scale, Patient Dignity Inventory, FACIT-G, and Distress Thermometers. Participants also rated acceptability and burden of this methodology. **Results.** There were high ratings of feasibility and acceptability for this methodology among participants. Qualitatively, participants' interviews contained themes of legacy, dignity, and increased sense of purpose at the end of life by teaching future clinicians. Over the course of the 3 week protocol, participants showed declines in Anxiety (F(1,7)=10.75, p<.05), Depression (F(1,7)=11.89, p<.01), and Anger (F(1,7)=5.67, p<.05). There were improvements in Dignity (F(1,7)=38.11, p<.01), and FACIT-G scores (F(1,7)=120.88, p<.01). Distress and helplessness ratings did not change (p=ns). **Conclusions.** Palliative care patients report that participation in an educationally-oriented legacy video project is acceptable, not burdensome, and quantitative data indicates benefits on participant mental health. This suggests that including patients in teaching and developing future palliative care treatment protocol is beneficial to the patients, as well as benefiting current and future palliative care treatment providers.

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Symposium 24B

COMMUNITY-BASED PALLIATIVE CARE AND ITS ASSOCIATION WITH PATIENT SOCIODEMOGRAPHIC AND CLINICAL CHARACTERISTICS

Lara Dhingra, PhD

In the U.S., community-based palliative care is emerging to support seriously ill homebound patients. However, there are few data on community-based service delivery models. We conducted a retrospective cohort analysis of 894 patients to describe their use of an interdisciplinary model of specialist-level palliative care (the 'High-Touch' model). Patients were referred by two managed care companies in New York. Using claims data, patients in need of palliative care were identified. Over 30% could not be enrolled due to incorrect addresses, refusal and other causes. Patients enrolled between 2010–2013 received home visits by a physician (MD) or nurse practitioner (NP) and social worker (SW), telephonic outreach by a registered nurse, and access to 24/7 on-call. Eligible participants completed the Spitzer Quality of Life (QOL) Index, Condensed Memorial Symptom Assessment Scale and Palliative Care Outcomes Scale (POS). The mean age was 73.3 years (SD=14.0); 56.2% women; 67.5% English-speaking and 22.2% Spanish-speaking. Overall, 70.3% lived in neighborhoods where nearly 30% were below the federal poverty level. The most common diseases were congestive heart failure (36.4%), cancer (30.4%) and chronic obstructive pulmonary disease (10.5%). Most (98.0%) had a Karnofsky Performance Status (KPS) of 40–70. The mean length of enrollment was 324.6 days (SD=270.1; median=268.5). Total service utilization over the study period included 6,010 MD/NP visits, 3,079 SW visits and 22,879 telephonic outreach calls. At baseline, overall QOL in the sample was moderate (M=5.6/10.0, SD=1.8); POS scores reflected low clinical need (11.9/40.0, SD=6.0), and symptom distress was low (M=1.2, SD=0.5). Older patients had fewer SW visits and telephone calls than younger patients. Patients without a caregiver had more MD/NP visits than patients with a caregiver. Minority patients, those living in poorer neighborhoods, patients with noncancer diagnoses and higher KPS had fewer MD/NP visits (all $p<.05$). Data on this 'High-Touch' model reflect the heterogeneity of populations with advanced illness and may inform future efforts for program development and outcome evaluation.

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Symposium 24C

REFLECTION ROUNDS FOR MEDICAL STUDENTS :ATTENDING TO STUDENTS' INNER LIVES IN THE FORMATION OF THE COMPASSIONATE CLINICIAN

Dr. Christina M. Puchalski, MD, FACP, FAAHPM

Burnout and suicide rates among physicians are high. Anecdotal evidence suggests that this may be related to a disconnection from clinicians' vocation to serve their patients. The stress of working with seriously ill patients can lead to increased burnout particularly when clinicians do not have the resources to attend to their own psychosocial and spiritual wellbeing. To address this disconnection from one's vocation, we developed G-Wish-Templeton Reflection Rounds (GTRR). GTRR is a mentored small group program for medical students integrated into the mainstream clinical rounding system. It is designed to nurture students' inner growth through a unique reflection process facilitated by teams of specially trained physicians, chaplains, and counselors. The goal of GTRR is to cultivate self-awareness—first, to strengthen students' sense of authenticity, altruistic connection, values and call to medicine; and second, to deepen their understanding of suffering as a means to grow into compassionate physicians and third to learn skills in self care and compassionate communication. G-TRR is a mentored small group program for clerkship students integrated into the clinical years. Through mentor and peer-facilitated reflection, students consider how their encounters with patients affect them emotionally, spiritually, and formatively. GTRR is based on consensus-based competencies in spirituality and health education. These competency behaviors structure of the rounds by providing topics for reflection as related to students' experiences with patients and the impact of those experiences on students' formation. Thematic analysis of students responses suggest that GTRR increases student engagement in their own mental health.

Preliminary qualitative data shows an impact on students awareness of the importance of spirituality in patient care, an awareness of their call to serve others, an awareness of their own values and sense of authenticity. Students also report learning attentive compassionate listening skills, and ways to manage stress of medical education. In this presentation we will discuss the origins, rationale and structure of G-TRR, describe its pilot implementation in 17 medical schools and potential future directions.

Symposium 25

1:45 PM–3:00 PM

CANCER CAREGIVER EXPERIENCES ACROSS THE CARE CONTINUUM: FROM DIAGNOSIS THROUGH BEREAVEMENT

Kelly M. Trevino, PhD¹, Maria Thomson, Ph.D.², Maija Reblin, PhD³, Erin E. Kent, PhD, MS⁴

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Approximately 4.6 million Americans provide informal unpaid care to cancer patients each year. These caregivers are at risk for poor mental (e.g., depression, anxiety, grief) and physical health (e.g., high blood pressure, myocardial infarction, cancer). This risk is present throughout the disease trajectory and after the patient's death. Understanding the experiences of cancer caregivers across the disease trajectory and into bereavement is vital to the development and dissemination of supportive resources to ameliorate and prevent poor outcomes. This symposium presents data from methodologically rigorous studies on the challenges of cancer caregivers following diagnosis, after hospice enrollment, and into bereavement from the perspectives of psychology, sociology, and epidemiology. The first presentation addresses gender differences in the financial, occupational, and emotional problems experienced by cancer caregivers following the patient's diagnosis based on a longitudinal mixed methods study. The second presentation identifies three profiles of communication between home hospice nurses and caregivers based on recordings of 537 home hospice visits. The third presentation provides preliminary psychometric data on a new measure of cognitive, emotional, and relational problems experienced by bereaved caregivers and risk factors for and correlates of these challenges based on a multi-site longitudinal study. Clinically, these studies suggest strategies for identifying caregivers at risk for poor outcomes and communicating effectively with caregivers. Important areas for future research are evident from this work including the development and evaluation of resources for at-risk caregivers. The symposium discussant is a Program Director in the Healthcare Delivery Research Program at the National Cancer Institute with expertise in epidemiological and mixed methods research who will analyze and provide a global context for the presented studies.

Symposium 25A

RISK FACTORS AND CORRELATES OF GRIEF CHALLENGES IN CANCER CAREGIVERS

Dr. Kelly M. Trevino, PhD

Background. Bereaved cancer caregivers are at risk for poor mental and physical health. A measure of challenges specific to bereavement is not available. This study provides preliminary data on a new measure of challenges experienced by bereaved cancer caregivers (*Grief Challenges Inventory*; GCI) and identifies pre-loss risk factors for and post-loss correlates of these challenges. **Grief challenges** are defined as social, emotional, and cognitive problems experienced by bereaved caregivers. **Method.** Data were collected as part of a prospective multi-site longitudinal study of terminally-ill cancer patients and their informal caregivers. Caregivers completed an interviewer-administered survey pre-loss (median 3.02 months prior to patient's death) and six months after the patient's death. The survey included measures of physical health, quality of life, social support, suicidal ideation, grief, and the GCI. Regression analyses controlling for demographic variables were conducted. **Results.** Caregivers ($n=163$) were largely female (77.3%) with a M age of 52.70 years (SD=13.07). The internal consistency of the GCI was high (Cronbach's $\alpha=.94$). Caregivers with greater role limitations, lower levels of emotional and social well-being, worse general health, and lower levels of social support pre-loss were at greater risk for high GCI scores post-loss (all p 's). **Discussion.** These results provide preliminary support for the reliability and validity of the GCI. Identified risk factors are important given the association between grief challenges and poor caregiver physical and mental health post-loss. Additional research on the psychometric properties of the GCI is needed. Providing pre-loss support for caregivers at risk for grief challenges may improve caregiver bereavement outcomes.

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Symposium 25B

EXAMINING GENDER DIFFERENCES IN CAREGIVER BURDEN

Dr. Maria Thomson, Ph.D.

Background: Female gender is a risk factor for depression, anxiety and psychological distress among cancer caregivers. As financial strain is a significant contributor to caregiver burden this study examined the interaction of gender, income, employment, health insurance and caregiver burden. **Methods:** Family caregivers of hematological cancer patients were recruited as part of a longitudinal mixed methods study assessing patient-caregiver communication and decision making. Caregiver burden, well being and self rated health were measured at initiation of initial cancer treatment using the Caregiver Reaction Assessment and the SF-20. In depth semi-structured interviews with caregivers explored their employment status, health insurance, work benefits and social relationships. **Results:** Of the 108 patient-caregiver pairs enrolled, 76% of caregivers were women. Female caregivers reported significantly greater financial problems ($t=2.29$; $p=.02$) and lower levels of mental health ($t=2.96$; $p=.004$) as compared to male caregivers. Semi-structured interviews revealed thematic differences between female and male caregiver conversations about employment changes. Women discussed the ramifications of having to re-enter the workforce, increase the number of hours worked, and care simultaneously for multiple dependents (either children and/or aging relatives). Women also reported difficulty identifying formal and/or informal caregiver support groups. Men discussed the availability of accrued sick leave from their employment as a benefit. **Conclusion:** Female caregivers report significant burden that differs from male caregivers. Difficulties re-entering the workforce and caring for multiple dependents may be more likely to effect female as compared to male caregivers. **Implications:** Caregivers are at risk for negative stress-related health outcomes. Greater focus is needed on the interaction between gender and employment to more clearly understand contexts of caregiver burden and well-being. Identifying those at higher risk of caregiver burden is imperative to accurately tailor psychosocial interventions.

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Symposium 25C

NURSE-CAREGIVER COMMUNICATION PROFILES IN CANCER HOME HOSPICE VISITS

Dr. Maija Reblin, PhD

Background Hospice use is increasing in the US. Most hospice patients receive team-based care in their own homes, coordinated by a nurse. Family caregivers (CGs) are often responsible for the majority of patients' day-to-day symptom and emotional care tasks. CGs often report feeling overwhelmed and unprepared. Effective nurse-CG communication may ease these feelings and improve patient care, but little systematic research has been conducted on current nurse-CG communication practice in home hospice. Our goal was to identify home hospice nurse-CG visit communication profiles. Methods As part of a large observational study, 537 nurse home visits to 101 spouse cancer CGs were audio-recorded from enrollment in hospice to patient death, with an average of 5 visits/CG. Questions, information and emotion statements were identified and coded for both nurses and CGs. Finite normal mixture modelling was conducted on communication code ratios of each communication type (percentage of total talk by speaker) using the mclust package in R. Best fitting cluster solution was chosen by BIC. Results CG M age=65.6 years ($SD=10.2$) and 60% were female. Nurses were 90% female and M years practicing in hospice=4.5 ($SD=4.9$). A 3 cluster solution provided an optimal fit under the BIC scoring rule ($BIC=10133.52$). Cluster 1 was characterized by high nurse and CG information sharing. Cluster 2 was characterized by high nurse information, questions, and emotion and low CG communication. Cluster 3 was characterized by high CG questions and emotion, but low nurse communication. Discussion These findings suggest that communication in home hospice nurse-cancer CG communication differs by who drives the communication—nurses, CGs, or shared. Nurse-driven communication included both information and emotion, CG-driven focused mostly on emotion, while shared communication focused mostly on information. Implications for practice may include a focus on increasing shared emotion between nurses and CGs. Future research can determine how communication profiles are associated with patient and CG outcomes.

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Symposium 26

1:45 PM-3:00 PM

FAMILY RELATIONSHIPS AND TYPE 1 DIABETES MANAGEMENT ACROSS THE LIFE SPAN

Cynthia Berg, Ph.D.¹, Maureen Monaghan, PhD², Koen Luyckx, Ph.D.³, Cynthia Berg, Ph.D.¹, Barbara Anderson, Ph.D.⁴

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Type 1 diabetes management involves a difficult set of adherence behaviors such as testing blood glucose, calculating carbohydrates and insulin doses, and administering insulin through injections/bolusing. Individuals engage in these behaviors in the context of close relationships, most especially family relationships, relationships that can facilitate or derail adherence behaviors. In addition, the experience of having someone in the family with type 1 diabetes may affect the ways in which family members relate to each other, thereby altering the family context in ways that may affect its ability to be a source of support. The present symposium takes a life-span perspective to family relationships and diabetes management, noting particular features of the family that may foster good diabetes management at different points in the life span. During young childhood, the family must adjust to the diagnosis of diabetes for one's child, with that process affecting the relationship among parents. Across adolescence and emerging adulthood, parents seek to maintain a social connection, with parental involvement especially beneficial when it is responsive to individuals' growing autonomy needs. Across adulthood, adults may benefit from a family context where romantic partners are aware of daily diabetes challenges so they may provide the assistance needed to manage daily diabetes problems. The symposium illustrates the importance of the family system for adherence to a difficult chronic illness. The papers explore the communalities that exist across the life span in features of close relationships that facilitate or derail diabetes management and features that may be specific to a particular developmental period. Papers are presented that illustrate methods for capturing family-based processes and point to important transactional processes that occur between the person with diabetes and other family members. In addition, the papers suggest ways to intervene early in family relationships to facilitate diabetes management within the family system.

Symposium 26A

YOUNG CHILDREN WITH T1D: PRIMARY AND SECONDARY CAREGIVERS' PERCEPTIONS OVER THE FIRST YEAR AFTER DIAGNOSIS

Dr. Maureen Monaghan, PhD

Young children (YC, < 7 years) with type 1 diabetes (T1D) rely heavily on primary caregivers (PCs), often mothers, with varying levels of support from their child's other caregiver. The relationship between PCs and secondary caregivers (SCs) and perceptions of diabetes related caregiving roles may influence T1D management and related adjustment, particularly during the newly diagnosed period. This study examined the contributions of SCs to daily diabetes management and how PC and SC perceptions of coparenting, social support, marital satisfaction, and parenting stress change across the first year post-diagnosis.

As part of a pilot randomized trial for parents of YC with newly diagnosed T1D, 32 PCs (M age=33.42 yrs, 63% Caucasian, 100% mothers, 75% married) and 18 SCs (M age=36.71 yrs, 50% Caucasian, 94% fathers) of 32 children (ages 1-7; M age= 4.77 yrs) completed self-report measures at baseline (within 3 months of diagnosis), and at 30 days, 180 days, and 365 days post-baseline.

Results indicated that on a typical day, SCs helped with diabetes-related tasks 25-50% of the time. Longitudinal data analyses utilizing general estimating equations (GEE) found no differences in perceived general social support across the first year post-diagnosis. PCs reported less cooperation in co-parenting than SCs, but this difference diminished over time. PCs reported lower marital satisfaction than SCs at each time point. Difficulty with pediatric parenting stress also decreased from baseline; however, SCs evidenced a more significant decline with time.

These data provide a first look at changes in caregiver relationships across the first year of their YC's diagnosis of T1D. SCs become more involved with diabetes care with time, but PCs consistently reported lower marital satisfaction than SCs. Results suggest that caregivers may adapt to the stress of managing a child's diabetes over time but PCs may experience more persistent burden and less satisfaction than SCs. Further examination with a larger sample is needed; findings may suggest future areas for intervention.

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Symposium 26B

PARENTING DIMENSIONS AND TREATMENT ADHERENCE IN TYPE 1 DIABETES ACROSS ADOLESCENCE AND EMERGING ADULTHOOD

Koen Luyckx, Ph.D.

Type 1 diabetes is a daunting challenge for adolescents on the verge of adulthood. They have to adhere to various daily tasks such as blood glucose monitoring, insulin therapy, and regulation of carbohydrate intake. Research has pointed to the importance of parents for treatment adherence. The present multi-informant study extends previous research by (1) focusing on mothers and fathers; (2) assessing multiple parenting dimensions; (3) examining moderating mechanisms on the path to treatment adherence; and (4) exploring differences and similarities across adolescence (14–18 years) and emerging adulthood (19–25 years).

The sample consisted of 407 patient-mother dyads and 345 patient-father dyads; all completed questionnaires on treatment adherence and parental responsiveness, psychological control, and diabetes-specific monitoring. Regression analyses (within and across informants) were performed in which parenting dimensions predicted treatment adherence, controlling for gender, age, use of injections versus pump, and illness duration. Interactions between monitoring and responsiveness/psychological control were examined.

Results indicated that psychological control negatively predicted treatment adherence for both mothers and fathers, both within- and across-informants analyses, and both developmental periods. Further, especially maternal responsiveness was a positive predictor of treatment adherence. Diabetes-specific monitoring did not uniquely predict treatment adherence, neither in adolescence nor in emerging adulthood. However, significant interaction-effects were obtained when examining adolescent perceptions of maternal monitoring: maternal monitoring positively predicted treatment adherence when monitoring took place in a responsive climate.

These findings encourage clinicians to pay attention to the broader emotional parenting climate besides focusing on diabetes-related monitoring. This emotional climate seems to be key towards treatment adherence, both in adolescence and emerging adulthood.

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Symposium 26C

DISCLOSURE TO PARTNER AND SELF-REGULATION OF TYPE 1 DIABETES IN COUPLES DURING ADULTHOOD

Cynthia Berg, Ph.D.

Type 1 diabetes management involves a difficult daily process whereby adults must regulate themselves and social relationships to adhere to their diabetes regimen. Adults may experience daily self-regulatory failures (e.g., forgetting to test blood glucose) that hamper daily adherence. Adults may benefit from involving their partners by disclosing diabetes-related issues and from partners soliciting information so they provide assistance. The study utilized a daily diary design to examine whether disclosure to partners (and partners' solicitation) related to daily self-regulation failures and adherence.

Fifty-two couples (ages 25–76, $M=47.4$) in which one member had type 1 diabetes completed online diaries for 14 days that assessed how much they disclosed to their partner about diabetes, whether their partner asked what happened with diabetes, how helpful their partner was in figuring out diabetes care, reports of 8 self-regulatory failures regarding blood glucose monitoring, and daily adherence behaviors.

Multilevel modeling revealed that across the 14 days (between subjects) adults' reports of greater disclosure were associated with better overall adherence and greater perceptions of partners' helpfulness ($ps < .05$). In addition, on days when adults disclosed more to their partner they perceived their partner as more helpful. Perceptions that one's partner solicited information about diabetes across the 14 days were associated with greater adherence, fewer self-regulatory failures, and greater perceived helpfulness from partner. In addition, on days when partners solicited information from the adult with diabetes, partners were perceived as more helpful. Age did not moderate these effects.

The findings suggest that sharing information daily about diabetes management with partners may create the context for partner support that is beneficial for daily diabetes management during adulthood.

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Symposium 27

1:45 PM-3:00 PM

UNDERSTANDING THE IMPACT OF PSYCHOLOGICAL SYMPTOMS ON CHRONIC DISEASE MANAGEMENT AND HEALTH OUTCOMES

Jessica Y. Breland, PhD¹, Elizabeth Klingaman, PhD², Brenna N. Renn, MA³, Gina Evans-Hudnall, PhD⁴, Robin M. Masheb, PhD⁵

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Approximately 73% of Veteran Affairs health care users have a chronic disease. One third of veterans with chronic disease have a co-occurring mental health disorder. Veterans with co-occurring physical and mental health disorders experience barriers practicing healthy lifestyle behaviors that manage chronic disease and have poor treatment outcomes. Greater attention is needed to psychological symptom barriers to chronic disease management and subsequent impact on health outcomes. The first presentation by Dr. Jessica Breland will examine the relationship between trauma and maladaptive dietary behaviors using a cognitive behavioral theory framework. The second talk by Dr. Elizabeth Klingaman will review tobacco use as a method of weight control and barriers to weight management among obese Veterans with a diagnosis of schizophrenia. The third talk by Brenna Renn, M.A., will detail the longitudinal findings from a randomized control trial examining the impact of anxiety and depression on illness intrusiveness in veterans with COPD and CHD. The fourth talk by Dr. Gina Evans-Hudnall will discuss preliminary findings from a pilot randomized control trial using an adjunctive mental and behavioral health treatment to decrease psychological barriers to weight management in obese veterans in with a mental health diagnosis. The implication of these four talks will be discussed by Dr. Robin Masheb.

Symposium 27A

HOW AND WHY TRAUMA EXPOSURE LEADS TO DISORDERED EATING: UNRAVELING COMPLEXITY

Jessica Y. Breland, PhD

Background. Research provides strong support for a positive association between trauma and disordered eating. Disordered eating ranges from behaviors associated with clinical eating disorders to occasional, but distressing binge eating/restriction. There are no clinical guidelines for treating comorbid trauma and disordered eating and there is little information on why individuals exposed to trauma engage in disordered eating, which creates complexity for clinicians and researchers invested in helping individuals with these comorbid conditions. **Methods.** To further understanding of the relationship between trauma and disordered eating, we conducted six focus groups and a dyadic interview between spring 2013 and fall 2014 with a racially diverse group of women at a Department of Veterans Affairs medical center ($N=20$). Two authors conducted inductive and deductive coding of transcripts to identify common themes. **Results.** Analyses suggested that the relationship between trauma and disordered eating fit within a cognitive behavioral model in which negative thoughts and emotions, triggered by reminders of past trauma, led to disordered eating, which often induced additional negative thoughts and emotions. We identified three themes related to this cycle: 1) negative affect, 2) trauma-related avoidance, and 3) trauma sequelae. Across themes, women described multiple reasons for disordered eating, including the reduction of trauma-related negative affect and a desire to achieve a culturally undesirable shape or weight in order to avoid attention from trauma perpetrators. **Conclusions.** These are some of the first data to provide qualitative information on disordered eating among women exposed to trauma. The varied reasons for disordered eating demonstrate how trauma-related disordered eating differs from disordered eating in other contexts. Querying about these causes of disordered eating when women report trauma histories will help ensure patients receive appropriate treatment.

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Symposium 27B

STRATEGIES, BARRIERS, AND MOTIVATION FOR WEIGHT LOSS AMONG VETERANS WITH SCHIZOPHRENIA

Elizabeth Klingaman, PhD

OBJECTIVE: Individuals with schizophrenia have two to three times the mortality rate of the general population, due in large part to high rates of obesity-related conditions, such as cardiovascular disease, diabetes, and metabolic syndrome. Weight loss programs for veterans living with schizophrenia have demonstrated mixed efficacy, highlighting unique obstacles faced by this population. Data from a large national sample provide an opportunity to characterize the unique factors related to weight loss for veterans with schizophrenia. The present study compared veterans living with schizophrenia ($n = 5,388$) to veterans with no mental health diagnoses ($n = 81,422$) on responses to the MOVE!23, a multidimensional assessment of factors related to weight management. **METHODS:** Responses to the MOVE!23 between August, 2005 and May, 2013 by veterans with a body mass index in the overweight or obese range were used to describe clinical characteristics, current strategies, perceived barriers, stages of readiness, and importance of and confidence to change behaviors related to their weight management. **RESULTS:** Both groups reported similar stages of readiness and high ratings of importance and confidence regarding weight loss behaviors. Compared with veterans with no mental health diagnoses, over 5 times as many veterans living with schizophrenia reported smoking to control weight, and a greater number endorsed 18 of the 21 barriers to modifying eating and physical activity. **CONCLUSIONS AND IMPLICATIONS FOR PRACTICE:** Results highlight the necessity of addressing healthy lifestyles from a holistic perspective for all veterans. Adding regular physical activity as part of daily treatment may address the accessibility, safety concerns, and lack of social support reported as physical activity barriers. Increased access to healthier food choices and addressing smoking in conjunction with weight loss are also warranted. Implications for innovative, integrated behavioral weight management interventions will be discussed, as well as methods to expand reach to veterans with serious mental illnesses.

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Symposium 27C

ILLNESS INTRUSIVENESS AMONG VETERANS WITH CARDIOPULMONARY DISEASE

Brenna N. Renn, MA

Background: Illness intrusiveness, the extent to which a disease and/or treatment interferes with meaningful activities, is high among individuals with cardiopulmonary disease (COPD) and congestive heart failure (CHF), especially in the context of co-occurring emotional distress. Emotional distress, quality of life, perceived level of health, and self-efficacy are predictive of disease progression and outcomes. However, little is known about the impact of these variables on illness intrusiveness among Veterans with COPD and CHF. **Objective:** Examine predictors of illness intrusiveness in Veterans with COPD and CHF. **Method:** Participants were 227 Veterans recruited from two south central US Veterans Affairs Medical Centers in the context of an ongoing 6 session cognitive behavioral therapy trial designed to improve outcomes for medically ill Veterans. Participants had a diagnosis of COPD and/or CHF and endorsed clinically elevated symptoms of anxiety and/or depression. At baseline and post-treatment, participants were administered validated measures assessments for anxiety, depression, illness intrusiveness, self-rated health, and self-efficacy. **Results:** Baseline scores for illness intrusiveness were high ($M = 56.50 \pm 15.68$), with most burden reported in domains of work and finances ($M = 5.03 \pm 1.54$) and physical well-being ($M = 4.57 \pm 1.37$). Pearson's correlation demonstrated higher levels of anxiety and depression as associated with increased illness intrusiveness. Participants reported fair-to-poor self-rated health ($M = 4.19 \pm 0.73$); in linear regression analyses, this independently predicted illness intrusiveness after controlling for self-efficacy ($b = 4.88$, $SE = 1.30$, $p < .001$). Longitudinal changes in illness intrusiveness will be modeled and discussed. **Conclusion:** Veterans with COPD and CHF report high levels of illness intrusiveness associated with self-rated health and psychological symptomatology. Further research is needed to understand illness intrusiveness and the related psychological aspects of perceived health status.

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Symposium 27D

USING AN ADJUNCTIVE MENTAL HEALTH TREATMENT TO IMPROVE OUTCOMES IN A WEIGHT LOSS PROGRAM: HELP RCT PILOT INTERVENTION

Dr. Gina Evans-Hudnall, PhD

Background: Obese veterans with co-existing symptoms of depression, anxiety and PTSD experience difficulties with weight management. MOVE! is an evidenced based weight management program within the VA system. Veterans with mental illness demonstrate poor weight loss in MOVE! We developed and tested a telephone based pilot intervention (HELP) aimed at decreasing psychological related barriers to weight loss in MOVE! among Veterans with depression, anxiety and PTSD. **Objective:** Describe preliminary outcomes of the HELP! Intervention. **Methods:** Forty veterans were recruited and randomized to the HELP or usual care (UC). Validated assessments of mental health symptoms, self-efficacy and quality of life were administered at baseline and sixteen weeks. Participants received an anxiety or depression workbook dependent upon baseline mental health scores. Participants in HELP received 8 (6 core and 2 electives) weekly CBT phone based sessions that integrated behavioral and mental health treatment. The UC participants only received the workbook and assessments. Analyses of co-variance were conducted and effect sizes were calculated. **Results:** In comparison to UC, participants in HELP had greater weight loss and significant improvements in PTSD ($p = .009$), quality of life ($p = .002$), and self-efficacy ($p = .016$) scores at 16 weeks. There were large effect sizes in anxiety ($d = .75$) and physical functioning ($d = .82$) subscale scores. **Conclusions:** Providing an adjunctive treatment with an integrated behavioral and mental health focus may improve weight loss, psychological functioning and quality of life.

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Symposium 28

1:45 PM-3:00 PM

INSIDE THE BLACK BOX: DECONSTRUCTING SOCIAL AND PEER SUPPORT

Edwin B. Fisher, Ph.D.¹, Monika M. Safford, MD², Sarah D. Kowitz, MPH³, Nivedita Bhushan, MA⁴, Michele Heisler, MD MPA⁵

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Evidence supports the value of peer support (from Community Health Workers, *promotores de salud*, etc.) in prevention and disease management, but detailed understanding of how it works – success factors – is limited. Four programs supported by Peers for Progress addressed peer support for diabetes across a range of different U.S. settings and populations. Benefits in terms of glucose control and quality of life were associated with participants' ratings of the extent to which peer support was nondirective (cooperative without taking over, accepting feelings and choices) rather than directive (prescribing "correct" behavior, feelings, choices, e.g., "look at the half of the glass that's full"). A systematic review of peer support promoting breast feeding examined factors related to program success. In contrast to simply to offering patients the option of peer support, the number of *proactive* strategies (e.g., active initiation of support, face-to-face contact) predicted initiation of ($p < 0.05$) and exclusive breast feeding ($p < 0.01$). A peer-delivered cognitive behavioral therapy improved physical activity by increasing pain self-efficacy, pain coping, and use of stress reduction strategies. Understanding social psychological aspects of peer support (nondirective and directive support), procedural tactics (proactive approaches) and intervention components (skills, behavioral goals, techniques) may guide implementation and enhancement of peer support in prevention and care.

Symposium 28A

PEER ADVISORS IMPROVED PHYSICAL ACTIVITY DESPITE PAIN

Dr. Monika M. Safford, MD

As many as 70% of people with diabetes report chronic pain, a major barrier to physical activity. While professional-delivered cognitive behavioral therapy (CBT) improves pain and coping in individuals with chronic pain, many rural and underserved communities lack resources for such programs. We examined how a structured CBT-based program delivered by trained community members improved exercise despite pain in individuals with both diabetes and chronic pain.

This community-based, cluster-randomized controlled trial engaged adults with diabetes and chronic pain living in a remote rural region. The intervention (INT) group received an 8-session telephonic program administered by trained peers over 12 weeks incorporating adaptive coping skills, setting diabetes self-management behavioral goals, stress reduction techniques, and cognitive restructuring. Controls (C) received general health advice with an equal number of peer advisor contacts. Physical activity despite pain was assessed by asking on how many days participants engaged in physical activity despite pain in the past week. Pain self-efficacy and coping were assessed using validated instruments.

The 193 participants had mean age 59±10 years, 97% were African Americans, 79% were women, 45% used insulin, and baseline mean physical functioning scores from the Short Form 12 were 38±9 with 36% reporting inability to engage in any exercise because of pain. At follow-up, 83% of INT participants improved or maintained their physical activity despite pain, compared with 54% of C participants (p

Peer-delivered CBT improved physical activity by increasing pain self-efficacy, pain coping, and use of stress reduction strategies.

Symposium 28B

DIFFERENTIATING THE ROLE OF SOCIAL SUPPORT ON DIABETES OUTCOMES AMONG A CROSS-SITE SAMPLE OF ADULTS

Ms. Sarah D. Kowitz, MPH

Research has consistently documented the beneficial effects of social support and supportive relationships on physical and mental wellbeing, particularly for those with diabetes. However, most of the research on social support has relied on associations between general measures of social support (e.g., availability, satisfaction, quality) and health/well being without investigating the pathways through which their influence is expressed. Recent research has begun to suggest the importance of differentiated or specific characteristics of social support on health. Cross site data from peer support interventions in 4 sites across the U.S. provided the opportunity to examine the effects diabetes-related outcomes on diabetes outcomes of specific aspects or social support. We used structural equation modeling in a cross-cultural sample of adults with type 2 diabetes (n= 436). Overall, our model demonstrated good fit: $\chi^2 = 130.506$ (p=0.0076); RMSEA = 0.035 (90% CI: 0.019, 0.049); CFI = 0.994; TLI = 0.992). Controlling for education, age, sex, years with diabetes, site, and baseline measures of glycemic control and diabetes distress, we found that nondirective support from peers (i.e., support that is accepting of the recipient's feelings and choices and cooperative with their plans) was significantly associated with lower levels of diabetes distress. In contrast, directive support (e.g., support that is prescriptive and guided by rules) was significantly associated with greater diabetes distress and poorer glucose control. There was also a relationship between greater diabetes distress and poorer glucose control. With nondirective support associated with lower diabetes distress and directive support associated with worse distress and glucose control, the specific types and manners of support provided by peers may be important to consider in developing such interventions.

Symposium 28C

COMMUNITY BASED PEER SUPPORT IN BREASTFEEDING INTERVENTIONS: EXAMINING ENGAGEMENT STRATEGIES

Ms. Nivedita Bhushan, MA

Background: Over the past twenty years, papers reporting on the failure of community based peer support often have to failed engage individuals in peer support interventions. There is limited evidence about the types of engagement strategies utilized by peer supporters and the impact of these engagement strategies on intervention outcomes. **Methods:** A systematic review was conducted using PubMed and the Cochrane Central Register for Controlled Trials to identify papers describing community based, peer delivered interventions related to breastfeeding from January 1, 1995 to January 1, 2015. These papers were used to analyze common engagement strategies utilized by peer supporters. **Results:** 35 out of 158 papers met inclusion criteria. Engagement strategies included face-to-face interaction (86%), active initiation of peer support (75%), prenatal and postnatal contact (56%), and contact within 72 hours of birth (56%). The number of strategies utilized in interventions and effective outcomes were significantly associated with exclusive breastfeeding (chi-square = 8.27, p-value = 0.0046 | correlation = 0.67, p-value = 0.0010) and initiation of breastfeeding (chi-square = 4.3077, p-value = 0.0453 | correlation = 0.54, p-value = 0.03). No unique combination of engagement strategies however, was significantly associated with breastfeeding outcomes. **Conclusion:** The number of proactive strategies that peer supporters use in breastfeeding interventions is significantly related to success in engaging mothers. Mirroring results in other areas (e.g. smoking cessation), no specific set of strategies was superior to others. Rather than any single strategy or specific combination of strategies, we found that more strategies had a greater impact on breastfeeding outcomes.

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Symposium 29

1:45 PM-3:00 PM

TECHNOLOGY-DELIVERED BEHAVIORAL INTERVENTIONS FOR CHILD-BEARING WOMEN: CHALLENGES, TRIUMPHS, AND LESSONS LEARNED

Molly E. Waring, PhD¹, Jennifer Huberty, PhD², Timothy Bickmore, PhD³, Diane K. Ehlers, PhD⁴

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Maternal health behaviors impact children's health. While childbearing may present a window of opportunity for the promotion of healthy behaviors, women face many challenges to behavior change and participation in health promotion programs during this life phase. Delivering behavioral interventions via websites, text messages, online social networks, and other digital media may overcome challenges to engaging childbearing women in behavior change. Roughly 80% of US adults of childbearing age own a smartphone, and 85% use social networking sites such as Facebook. The purpose of this symposium is to describe three recent studies of technology-delivered behavioral interventions for women across the spectrum of childbearing. Each presenter will present findings and lessons learned from technology-delivered behavioral interventions among childbearing women. Timothy Bickmore will present preliminary results from a trial of a conversational agent-based breastfeeding promotion intervention delivered in the obstetrician's office during the third trimester, in the labor and delivery ward immediately following delivery, and at home over the web for six months following discharge. Molly Waring will present a pilot study assessing the feasibility and acceptability of a postpartum weight loss intervention delivered via Facebook. Jennifer Huberty will present Fit Minded Working Moms, a web-based intervention using podcasts and a discussion board to improve physical activity behaviors in working moms. Diane Ehlers, discussant, will contextualize the development and evaluation of technology-delivered behavioral interventions for childbearing women and highlight future directions for overcoming challenges specific to this population, increasing engagement and efficacy, and potential for dissemination at the population level.

Symposium 29A

FEASIBILITY AND ACCEPTABILITY OF A POST-PARTUM WEIGHT LOSS INTERVENTION DELIVERED VIA FACEBOOK: A PILOT STUDY

Dr. Molly E. Waring, PhD

Significant post-partum weight retention is common. Many women experience barriers to participation in in-person weight loss programs. Social media use is prevalent, and may be an effective delivery mode for this population. We conducted a pilot to evaluate the feasibility and acceptability of a Facebook-delivered post-partum weight loss intervention. We delivered a weight loss intervention to 19 overweight and obese post-partum women via a secret Facebook group. Over 12 weeks, women received daily tips and counseling based on the Diabetes Prevention Program via posts, links to articles and recipes, a weekly weight loss check-in, and support. Women were instructed to use a free commercial app to track diet and activity. Women reported their weight via email weekly. Weight was measured at baseline and post-intervention. Women were 31.5 (SD: 3.2) years old, 3.5 (SD: 2.2) months post-partum, with baseline BMI 30.1 (SD: 4.2) kg/m² and post-partum weight retention 14.2 (SD: 18.0) lbs. 74% were non-Hispanic white, 63% had 2+ children, and 74% were breastfeeding. Retention was 95%. Women reported their weight on an average of 10.5 (SD=1.5) weeks; 32% on all 12 weeks, and 100% ≥8 weeks. Average weight loss was 4.8% (SD: 4.2%), and 58% lost ≥5%. 88% said they would be likely/very likely to participate again if they had another baby, and 82% would be likely/very likely to recommend the program to a post-partum friend. 89% posted, commented, or “liked” a post or comment within the last 3 weeks of the intervention, 63% within the last week, and 42% on the last day. 74% viewed post(s) on the last day of the intervention, and 95% within the last week. A post-partum weight loss intervention delivered via Facebook is feasible and acceptable to overweight and obese post-partum women. While there was a high rate of at least passive engagement through intervention end, research is needed to explore effective ways to engage this population.

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Symposium 29B

FEASIBILITY AND EFFECTIVENESS OF A WEB-BASED PHYSICAL ACTIVITY INTERVENTION FOR WORKING MOTHERS

Jennifer Huberty, PhD

The purpose of this study was to examine the feasibility and effectiveness of a web-based intervention to promote physical activity and self-worth among working mothers. Participants ($N=69$) were randomly assigned to receive a standard web-based intervention or an enhanced intervention that included group dynamics strategies to promote engagement. The 8-week Fit Minded Working Moms intervention was guided by self-determination theory. Each week, participants were instructed to complete three tasks: 1) listen to a podcast related to well-being, 2) complete a web-based workbook assignment, and 3) communicate with other participants on the website discussion board. Participants in the enhanced condition received an additional weekly task designed to enhance group cohesion. Data were collected at baseline, week 8, and week 16. Repeated measures ANOVAs revealed physical activity and self-worth increased significantly in both groups across the study period, and stress and controlled motivation decreased. Website use declined across the 8-week intervention in both groups; however, discussion board use was higher in the enhanced condition. Participants liked the podcasts best but were disappointed with the sparse discussion board use. These findings suggest web-based interventions can improve physical activity and self-worth among working mothers. Group dynamics strategies modestly enhanced user engagement, but future studies are needed to optimize the usability of web-based interventions in this population.

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Symposium 29C

USABILITY OF A RELATIONAL AGENT-BASED BREASTFEEDING PROMOTION INTERVENTION

Prof. Timothy Bickmore, PhD

The numerous health benefits of breastfeeding to infants and mothers has led the WHO and the American Academy of Pediatrics to recommend that women breastfeed their infants exclusively for the first 6 months of life. However, recent studies have shown that only 21.9% of women in the US achieve this. To help address this disparity, we have developed a computerized, animated conversational agent that plays the role of a virtual lactation educator with content aligned with needs at various times prenatally and post-partum. The agent is designed to interact with new mothers at three time points: 1) during their third trimester, in their obstetrician's office, on a tablet computer; 2) immediately following birth, in their room in the maternity unit of the hospital; and 3) six months after they leave the hospital, accessed over the web. We have recently completed a randomized trial involving 81 nulliparous women, aged 19–43, 83% White/Hispanic, 91% with at least some college education, comparing the computerized intervention to a standard-of-care control group. Preliminary use data indicate that all three intervention components were used extensively. Forty-one women completed the prenatal session, lasting an average of 41 minutes. Twenty-nine women used the system during their stay at the hospital, conducting an average of 3.6 sessions lasting a total of 67 minutes. Thirty-three women started using the home-based postnatal system, with 23 completing the six-month intervention, logging an average of 12.5 sessions lasting a total of 122 minutes on average. Participants were largely satisfied with the intervention, rating the prenatal system an average 5.7, the in-hospital system a 5.0, and the postnatal system a 5.6, on 1–7 scales of satisfaction.

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Symposium 30

1:45 PM-3:00 PM

THE VALUE OF TECHNOLOGY-BASED SCREENING FOR THE VA CLINICAL AND RESEARCH ENTERPRISE

Nilooafar Afari, PhD¹, Neal Doran, Ph.D.², Kathryn M. Godfrey, M.S.³, James Pittman, MSW⁴

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More than half of the 2 million U.S. Iraq and Afghanistan Veterans have enrolled in the VA Healthcare System. These Veterans have extensive physical and mental healthcare needs, with high rates of pain, traumatic brain injury, posttraumatic stress disorder, depression, anxiety, and suicidal ideation. The VA Healthcare System faces challenges in a) identifying the needs of Veterans so they can access services, and b) generating a research base of evidence to facilitate efficient delivery of care. The current symposium focuses on the clinical and research value of eScreening, a patient-facing electronic screening program integrated with the electronic health record. eScreening was developed and implemented for clinical purposes but has advantages in providing an infrastructure for capturing large amounts of data for clinical research. The goal of this symposium is to introduce eScreening as a technology-based screening program and highlight the clinical and research benefits, especially in critical areas such as pain and suicidality. The first presentation will describe eScreening's features and discuss results of a large-scale evaluation of its clinical utility. Presenter 2 will present findings from eScreening data on the role of gender and posttraumatic stress disorder in the relationship between combat exposure and pain. Using eScreening data in conjunction with medical records, presenter 3 examines predictors of suicide risk in Iraq and Afghanistan veterans. Finally, the discussant will critically discuss the presented findings as well as the role of technology-based screening for both clinical and research purposes. Together, these presentations highlight the benefits of technology innovations in the VA Healthcare System and have implications for the future of 21st century healthcare.

Symposium 30A

PREDICTORS OF SUICIDE RISK IN IRAQ AND AFGHANISTAN VETERANS

Neal Doran, Ph.D.

The rate of suicide among military Veterans has increased substantially and is now more than triple the rate in the general population. One potential explanation for this disparity is increased incidence of suicide risk factors (e.g., psychiatric disorders) in Veterans of more recent eras. Using screening and chart review data from the eScreening project, the purpose of this study was to test associations between psychiatric symptoms and suicide risk in Iraq and Afghanistan veterans enrolling in the VA San Diego Healthcare System. Of the 1,453 Veterans who were comprehensively screened for the eScreening project, 584 (40%) had a Comprehensive Suicide Risk Assessment (CSRA) in their charts in the 6 months immediately following the screening. Screening measures included demographic questions and standardized measures of posttraumatic stress disorder and depression symptoms, anger/aggression, and psychological resilience. CSRAs were completed by licensed mental health providers during a clinical interview. While the CSRA yields four ordinal levels of risk, few Veterans were judged at moderate (3.3%) or high (0.3%) risk during the interview; thus CSRA risk was recoded as a binary variable reflecting the presence or absence of heightened suicide risk. Predictors of heightened risk were analyzed via binary logistic regression. Findings suggested that heightened risk was associated with younger age and with a larger number of deployments, but was not related to gender. Veterans with higher depression and anger/aggression scores and lower resilience were more likely to be rated as at increased risk for suicide (all $ps < .05$). Clinician assessments of suicide risk were not associated with PTSD symptoms. Findings suggest that brief, standardized screening measures can be used to identify new patients who may be at increased risk for suicide, and that such screens can be effectively administered electronically.

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Symposium 30B

COMBAT EXPOSURE AND PAIN IN IRAQ AND AFGHANISTAN VETERANS: MEDIATORS OF GENDER DIFFERENCES

Kathryn M. Godfrey, M.S.

Veterans with combat exposure (CE) experience physical health outcomes associated with disability and poor quality of life. Understanding the CE-physical health relationship, specifically pain intensity and pain interference, may inform etiological models and interventions. Using data from eScreening and associated databases, this study sought to examine the CE-pain relationship and associated moderators and mediators. Veterans ($n = 2381$, 15.5% female) registering for healthcare at the VA San Diego Healthcare System completed paper or electronic self-report measures, including a pain rating scale and the PHQ-15 to assess pain intensity and interference, respectively. Analyses determined differences in pain intensity and interference by CE group and examined gender as a moderator. Mediated moderation models analyzed factors through which gender moderated the CE-pain relationships. Controlling for age, veterans with CE had higher pain intensity ($p < .001$, $R^2 = .02$) and pain interference ($p < .001$, $R^2 = .05$); both associations were moderated by gender ($ps < .05$). Men with CE had higher pain intensity and interference compared to men without CE, whereas women with and without CE had comparable levels of pain. Mediated moderation analyses showed PTSD symptoms mediated the moderation of the CE-pain relationships by gender. Findings showed that CE is associated with poor pain outcomes, with effects differing by gender, and that these gender differences may occur through PTSD symptoms. Elucidating the mechanisms whereby CE impacts physical health is essential. Future studies should examine gender differences and mediators in the CE-pain relationship using longitudinal designs to inform etiological models and development of targeted health interventions.

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Symposium 30C

IMPLEMENTATION AND EVALUATION OF ESCREENING AT THE VA SAN DIEGO HEALTHCARE SYSTEM

James Pittman, MSW

Millions of Veterans need to be screened for mental and physical health symptoms to provide timely care and to monitor progress and outcomes. Developed and implemented at VA San Diego Healthcare System, eScreening is a dynamic mobile technology that enables Veteran-directed screening, individualized patient feedback, and monitoring of treatment outcomes. eScreening provides real-time scoring, documentation of clinical information to the VA electronic medical records system, and alerting to clinicians for evaluation and triage. In newly enrolled combat Veterans, eScreening was compared to a paper-based screening packet across Veteran and clinician satisfaction and efficiencies in screening, identification of at-risk Veterans, and the provision of clinical care. 1,453 Veterans (12.9% female; 20.6% Latino) in two separate cohorts completed either the paper screening or eScreening. Chart reviews for the 6 months following screening examined the impact of screening modality on clinical care. Veterans who completed eScreening were significantly more satisfied than those who underwent paper screening ($p = .011$). 90% of eScreening Veterans whose screens indicated a need for a suicide risk assessment were evaluated on the same day compared to 77% of those who completed paper screening. eScreening provided an estimated savings of 6.5 provider hours and 4.4 Veteran hours for every 100 Veterans seen. eScreening contributed to a database of over 3,000 newly enrolled Veterans with large percentages of women and Latinos and most eScreening Veterans consenting to be contacted for subsequent research. Findings from the implementation and evaluation of eScreening demonstrate how technology can be harnessed to streamline screening for mental and physical needs in healthcare systems and can allow researchers and administrators to more quickly identify needs, trends, and adapt to Veteran's healthcare needs.

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Symposium 31

1:45 PM-3:00 PM

IMPROVING VETERAN HEALTH AND WELL-BEING: ADVANCES IN COMPLEMENTARY AND INTEGRATIVE MEDICINE APPROACHES

Crystal Park, PhD¹, Jill E. Bormann, PhD, RN, FAAN², Erik J. Groessl, PhD³, A. Rani Elwy, PhD, MSc⁴

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The recent wars in Iraq and Afghanistan have left hundreds of thousands of US military veterans suffering from chronic pain, psychological distress, and functional impairments associated with war-related trauma and injuries. Unmet needs for effective treatment, along with many veterans' desires for drug-free and self-care healing practices, have led to increasing interest by both the DoD and the VHA in Complementary and Alternative Medicine (CAM), a range of practices that do not fit within the dominant biomedical model of healthcare. Most veteran healthcare setting now provide access to some types of CAM, offered as wellness promotion and adjunct therapies for chronic disease management. Yet much remains to be learned about veterans' CAM practices, including military experiences and other characteristics of veterans who engage in different types of CAM, interest in and acceptability of specific CAM practices, effectiveness, and best means of delivery. This symposium addresses these issues through three presentations.

The first presentation provides results of a survey of 770 recently-returned veterans from Iraq and Afghanistan regarding their use of 12 specific CAM modalities and specific predictors of the use of each modality. Results showed that each predictor was related to a unique constellation of CAM modalities, suggesting that the use of each CAM modality should be considered separately. The second presentation provides qualitative and quantitative data regarding feasibility, adherence, and satisfaction from a randomized, controlled trial of yoga for chronic lower back pain in VA patients. Overall, yoga was well-received among VA patients and especially appeals to veterans who are women and racial/ethnic minorities. The third presentation reports on a trial of the Mantram Repetition Program (MRP) in 273 veterans. Results suggest that the MRP can be effectively delivered at different VA sites by clinicians with different types of MRP facilitator training, without compromising efficacy. Dr. Rani Elwy, a prominent CAM researcher at the National Center for PTSD in Boston, will discuss the findings of these studies in the context of future trends in veteran healthcare.

Symposium 31A

PREDICTORS OF SPECIFIC COMPLEMENTARY AND INTEGRATIVE MEDICINE MODALITY USE IN RECENTLY-RETURNED OEF/OIF/OND VETERANS

Crystal Park, PhD

The use of complementary and alternative medicine (CAM) is increasingly prevalent among veterans, particularly those from recent conflict eras. Thus, understanding more about the characteristics of veterans who use CAM is increasingly important, so that we may best tailor CAM programming to meet the needs of this population. Although CAM comprises a diverse set of practices, existing studies reporting on predictors of CAM use typically discuss CAM use in aggregate. However, each CAM modality comprises a unique approach to healthcare, and each may have different correlates. Thus, very little information is available about veterans' use of each specific CAM modality. In addition, few studies have examined psychosocial correlates of CAM use in veterans. In the present study, therefore, we examined a wide range of predictors of 12 CAM modalities. Further, we examined a range of potentially important determinants of CAM use, including demographics, military experiences, current mental and physical health, and spirituality. We analyzed data from wave 1 of the Survey of the Experiences of Returning Veterans (SERV) study, which included 770 veterans returning from Operation Iraqi Freedom (OIF), Operation Enduring Freedom (OEF) and Operation New Dawn (OND). Data were collected by telephone interviews. Results showed that each predictor was related to a unique constellation of CAM modalities; not one of the predictors that we examined was associated with more than half of the 12 modalities. For example, women were more likely to use acupuncture, massage, yoga, meditation and spiritual healing and age related only to greater use of homeopathy, while deployment injuries related positively to use of chiropractic, nutrition and meditation (all $p < .05$). These results suggest that in order to understand CAM use, CAM modalities should be considered unique and separate practices. This greater understanding should be useful for future health service provision for veterans.

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Symposium 31B

MULTI-SITE DISSEMINATION OF SPIRITUALLY-BASED MANTRAM REPETITION PROGRAM FOR VETERANS

Dr. Jill E. Bormann, PhD, RN, FAAN

Background: The Mantram Repetition Program (MRP) teaches portable, meditation strategies of mantram (sacred word) repetition, slowing down, and one-pointed attention. Previous studies on MRP have shown significant decreases in psychological distress and improvements in spiritual well-being and mindfulness. However, no studies have examined outcomes based on differences in MRP facilitator training. **Objectives:** The primary objective was to assess the health outcomes of MRP delivered to Veterans at multiple sites. The secondary objective was to compare outcomes based on type of clinicians' MRP facilitator training (apprenticeship or 2-day MRP workshop). **Method:** Self-selected Veterans from six VA sites completed pre- and post-test surveys using the Brief Symptoms Inventory-18 (BSI-18), Functional Assessment of Chronic Illness Therapy—Spiritual Well-being (FACIT-Sp), and Mindfulness Attention Awareness Scale (MAAS). They were analyzed using paired t -tests. Veterans were then categorized according to type of MRP facilitator training clinicians received: apprenticeship ($n=173$) or 2-day workshop ($n=100$). Outcome comparisons were made with 2-group (type of training) by 2-time (pre and post-test) ANOVA. **Results:** Veterans ($n=273$) were male (87%), White (58%), Hispanic (14%), African-American (12%), Asian (6%), other (10%), with age ($M=57$, $SD=11.46$). All outcomes improved significantly at post-test ($p < .001$); Cohen's d effect sizes ranged from .38 to .66. Differences in facilitator training did affect outcomes. **Conclusions:** Findings show that the MRP can be delivered at different VA sites by clinicians with different types of MRP facilitator training, without compromising efficacy. Differences in facilitator training did not result in differences in clinical outcomes. Future research using larger, randomized effectiveness designs are needed to confirm these findings.

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Symposium 31C

YOGA FOR VA PATIENTS WITH CHRONIC LOW BACK PAIN

Dr. Erik J. Groessl, PhD

VA patients have more chronic low back pain (CLBP) than non-veterans, and many current treatment options such as opioid pain medications have limited effectiveness and/or significant side effects. Hatha yoga has been shown to improve CLBP in non-veteran populations, but has not been studied in VA settings. We present qualitative and quantitative data on feasibility, adherence, and satisfaction from a randomized, controlled trial (RCT) of yoga for CLBP in VA patients. Participants were recruited through primary care and specialty clinics at VA San Diego. After screening, eligible patients are randomized to yoga therapy or a delayed treatment comparison group. Yoga consists of 2x weekly yoga sessions for 12 weeks. Home practice of yoga was encouraged via a home practice manual. Both also received usual care. Assessments occur at baseline, 6 weeks, 12 weeks, and at a 6-month follow-up. We have enrolled 124 out of 144 VA patients with CLBP via 5 of 6 planned cohorts. Participant had a mean age of 55.3 years, and were 24% women, 33% non-White, 23% Hispanic, 63% single, divorced, or widowed, 24% employed, 24% were homeless in the last 5 years, and 87% attended some college. Over the course of 26 months (4/13-6/15), 369 individuals inquired about the yoga research program, 84 were ineligible on pre-screen, 92 were unresponsive to further screening requests, 67 had scheduling conflicts but were interested in a future cohort, and 126 were randomized (2 of which requested to be unenrolled after randomization). Completion of the follow-up assessment at the primary endpoint (12-weeks) was lower than expected at 80%. When including all people randomized to yoga, yoga attendance was 42% of sessions in the first 2 cohorts. Efforts to increase attendance were successful, with a mean of 58% of sessions attended in cohorts 3-5. Themes emerging from qualitative data were very positive, and included reference to reducing pain medications, safety of the yoga, sustainability, and social connection. In conclusion, our recruitment methods and efforts to improve attendance were successful. Qualitative data indicate that participants were satisfied with the yoga intervention. Overall, yoga was well-received among VA patients and also appeals to veterans who are women and racial/ethnic minorities.

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Symposium 32

1:45 PM-3:00 PM

COUPLE INTERVENTIONS: VARIATION IN THEIR EFFECTS AND WHY ONE SIZE MAY NOT FIT ALL

Cynthia M. Khan, PhD¹, Sharon Manne, PhD², Laura Porter, PhD³, Christine Rini, PhD⁴

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The social context can have a profound, but often underappreciated, effect on the success of interventions designed to prevent disease and promote health. In particular, intimate partners are important influences on health because they are each other's first line of social support, they inform each other's health decisions, and they often share and influence each other's lifestyle behaviors. Thus, leveraging partner influence for health promotion efforts may facilitate long-term intervention success. Yet, attempts to leverage partner influence in couple interventions are not always successful at improving psychological, relational, and health outcomes. Inconsistencies in research findings highlight the need to investigate variation in ways that couples respond to couple interventions and whether this kind of variation can influence couples' success in those interventions. A promising approach is to understand how different relationship and health factors contribute to this variation. Such an understanding could help: 1) identify couples who are most likely to benefit from couple interventions and 2) guide development of more powerful couple interventions. This symposium will include three speakers who will discuss the potential implications of baseline relationship and health factors for couples' responses to interventions that seek to influence health-relevant thoughts, emotions, behaviors—and ultimately health outcomes. Speaker one will discuss implications of couple disagreement regarding illness-related lifestyle behaviors in findings from an "active living class" for adults with osteoarthritis and partners. Speaker two will discuss implications of pre-intervention distress in findings from an intervention for women undergoing treatment for early stage breast cancer and partners. Finally, speaker three will discuss the feasibility of specifically targeting distressed couples for intervention in findings from an intervention for adults with advanced stage gastrointestinal cancer and partners.

Symposium 32A

RESPONSES OF ADULTS WITH OSTEOARTHRITIS TO PARTNER SUPPORT AFTER COUPLE EDUCATION AND THE ROLE OF COUPLE DISAGREEMENTS

Cynthia M. Khan, PhD

Adults with osteoarthritis (AO) benefit from physical activity (PA) but face multiple barriers in attempting to adopt a more active lifestyle. One way to help them overcome these barriers is to leverage partner support. Yet, evidence suggests that couple disagreement over implementing illness-related lifestyle changes can undermine benefits of partner support. We conducted a longitudinal study of couples ($N = 108$ AO and their partners) participating in an “active living class” that focused on helping couples work together to help AO increase PA. We examined the frequency of *AO-reported* couple disagreement over PA at baseline (BL) as a moderator of associations between *partner-reported* attempts to encourage or facilitate PA (“partner support”) and three *AO-reported* outcomes: Self-efficacy to engage in PA, amount of PA, and amount of sedentary behavior through television or movie viewing one-week after class (T1). Controlling for AO age, gender, and T1 joint pain and stiffness, regression analyses indicated that engagement in more PA was marginally predicted by T1 partner support ($\beta = .17, p = .085$) but not by BL couple disagreement ($p = .876$). T1 partner support and BL couple disagreement were not significantly associated with AO self-efficacy ($ps > .10$). Moderation analyses indicated that greater T1 partner support was significantly associated with more time spent in television or movie viewing when BL couple disagreement was more frequent ($\beta = .40, p = .007$) but not when it was less frequent ($\beta = -.12, p = .429$). These findings illustrate the challenges for partners to support illness-related lifestyle changes and highlight the need for further research on couple dynamics surrounding lifestyle changes that may shape the efficacy of couple interventions.

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Symposium 32B

COUPLE-FOCUSED GROUP INTERVENTIONS FOR WOMEN WITH LOCALIZED BREAST CANCER

Sharon Manne, PhD

There are few comparisons of group therapy approaches for couples coping with breast cancer, and even less is known about putative treatment moderators. The goal of this study was to examine the efficacy of a couples’ support group versus a couple-focused communication and stress management group. Analyses indicated that global and cancer distress declined and well-being improved for couples enrolled in both groups. Among patients reporting higher pre-intervention cancer distress, anxiety and depression declined more over the one year follow-up among support group participants than among participants in the communication and stress management couples’ group. Among patients reporting lower pre-intervention cancer distress, anxiety and depression declined more among participants in the communication and stress management couples’ group than among couples support group participants. The same pattern was seen when patient-reported partner unsupportive behavior and relationship satisfaction were examined. This study highlights the importance of targeting different types of group therapy to cancer patients with different pre-intervention distress.

Symposium 32C

THE ELEPHANT IN THE ROOM: TARGETING A COMMUNICATION SKILLS INTERVENTION TO COUPLES HAVING DIFFICULTY TALKING ABOUT CANCER

Dr. Laura Porter, PhD

Research suggests that interventions to enhance patient-partner communication about cancer-related issues can lead to benefits for patients, partners, and their relationships. However, prior studies have typically included all willing participants rather than screening for couples having communication difficulties. Our previous research indicates that couples who report holding back from discussing cancer-related concerns are at risk for poorer psychological and relationship adjustment and most likely to benefit from intervention. Thus, we conducted a pilot study testing the feasibility and preliminary efficacy of a couples communication skills training (CCST) intervention targeted to couples in which one or both partners reported holding back from discussing cancer-related concerns. 32 couples were randomly assigned to either CCST or an education comparison condition. Patients were diagnosed with Stage III or IV GI cancer (44% colorectal; 72% Stage IV). The CCST and education interventions consisted of 6 sessions delivered via videoconference. Between-group effect sizes indicated that, compared to those in the education condition, patients and partners in CCST reported significant improvements in relationship satisfaction from pre to post intervention (effect sizes=.30-.34). Patients in CCST also reported improvements in intimacy, partner support, and communication (effect sizes=.35-.63). Retention rates were excellent with over 90% of randomized couples providing post-test data. Satisfaction ratings were high (mean=3.6 on 0-5 scale), and participant comments and clinical impressions suggested that the couples were highly receptive to communication skills training. Taken together, these findings suggest that couples with communication difficulties are receptive to and may benefit from CCST, and that videoconference is a promising mode of delivery for couples interventions in the context of advanced cancer.

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Symposium 33

1:45 PM-3:00 PM

A BRIEF SINGLE-ITEM PHYSICAL ACTIVITY MEASURE: PERFORMANCE ACROSS DIVERSE RESEARCH SETTINGS AND HEALTH OUTCOMES

Kathryn M. Ross, Ph.D. M.P.H.¹, Matthew P. Buman, Ph.D.², Jamie M. Zoellner, Ph.D. R.D.³, Michaela Kiernan, Ph.D.⁴, Michael G. Perri, Ph.D.⁵

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The need for brief, accurate measures of physical activity traverses behavioral medicine research. Existing self-report measures of physical activity have limited utility due administration time, participant health literacy levels and staff training necessary for accurate implementation, and the degree of reliability and validity demonstrated when these questionnaires are compared to objective measures of physical activity. This methodological symposium will include four presentations that systematically examine brief physical activity assessment across a broad range of populations and research settings, from tightly controlled clinical trials to population-level observational studies. Along with other results, all presentations include data collected via a brief (one self-report item) measure of leisure-time physical activity, the Stanford Leisure-Time Activity Categorical Item (L-Cat). The first presentation will examine the validation of the L-Cat compared to objectively-measured physical activity data in overweight and obese adults enrolled in a behavioral weight management program. The second presentation will investigate the performance of the L-Cat for measuring sedentary behavior in US Veterans and community-dwelling adults, across two mHealth-focused sedentary behavior interventions. The third presentation will discuss use of the L-Cat in a large effectiveness/implementation trial aimed at decreasing consumption of sugar-sweetened beverages and increasing physical activity in low socioeconomic status adults living in rural areas, and will explore the role of low health literacy in brief physical activity assessment. Finally, the fourth presentation will examine demographic, social, and environmental correlates of L-Cat and weight-status subgroups within epidemiological data from an ethnically diverse, state-wide representative sample of mothers. Overall, these presentations will address cross-cutting themes in behavioral medicine research, including the role of self-report assessment measures in a wide range of research settings and key associations between physical activity and an array of health outcomes.

Symposium 33A

VALIDATION OF A BRIEF MEASURE OF LEISURE-TIME PHYSICAL ACTIVITY

Dr. Kathryn M. Ross, Ph.D. M.P.H.

The Stanford Leisure-Time Activity Categorical Item (L-Cat), a single-item questionnaire that assesses leisure-time physical activity (PA), has demonstrated promise for identifying individuals who do not meet national PA recommendations; however, this questionnaire has not been validated against objective PA measures. The current study compared L-Cat scores to PA measured by Sensewear WMS ambands (SWA) in 76 overweight and obese adults (mean±SD age=50.8±11.8y, BMI=33.0±3.3kg/m², 85.5%Female, 82.9%Caucasian) taking part in a behavioral weight management program. At baseline, L-Cat category was significantly associated with SWA-measured daily steps (Spearman's $\rho=0.41$, $p<.001$), moderate-intensity ($\rho=.40$, $p<.001$), and vigorous-intensity PA ($\rho=0.29$, $p=.013$). Compared to other L-Cat categories, participants who reported engaging in moderate-intensity activities ≥ 5 days per week had the highest SWA-measured minutes per week of moderate-intensity PA (mean 347.7±135.2min). The L-Cat correctly identified 88.8% of individuals who did not meet PA recommendations at baseline. Investigating change over time in participants who had L-Cat and SWA data at baseline and a 6-month follow-up ($n=58$), an increase in one L-Cat category was associated with an increase of 491.51steps/day ($p=.027$) and 54.1±22.8min/week of moderate and vigorous intensity PA ($p=.021$). Compared to those who decreased or stayed in the same L-Cat category, those who increased in L-Cat category experienced significantly larger increases in caloric expenditure (159.3±54.6kcal/day, $p=.005$) and further experienced a 4.21±1.65% larger weight loss from baseline to 6-month follow-up ($p=.014$). The current study represents one of the first demonstrations of the validity of the L-Cat compared to objective PA measures. The L-Cat demonstrated acceptable concurrent validity and sensitivity to change compared SWA-measured PA. Further strengths and limitations of the L-Cat for use in behavioral interventions will be discussed.

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Symposium 33B

VALIDATION OF THE STANFORD LEISURE-TIME ACTIVITY CATEGORICAL ITEM AS A SCREENING TOOL FOR SEDENTARY BEHAVIOR

Dr. Matthew P. Buman, Ph.D.

Brief activity assessment tools are needed for efficient screening in epidemiological and intervention studies. The Stanford Leisure-Time Activity Categorical Item (L-Cat) is able to classify individuals based upon physical activity level. However, the emergence of sedentary behavior (i.e., sitting/reclining with low energy expenditure) as a novel risk factor, independent of physical activity, has highlighted the need for brief activity assessment tools to screen for sedentary behavior as well. The L-Cat - given its focus on differentiation among lower levels of physical activity - may be useful in this regard. US Veterans and community-dwelling adults were recruited for two recently completed mHealth-focused sedentary behavior interventions. All participants were 30–65 years of age, overweight/obese, and at increased metabolic risk. The L-Cat was assessed during an initial screening visit. Sedentary time was assessed following this visit objectively over 7 consecutive days with the activPAL3c and accompanied by a self-report log of sleep and non-wear times. Total sedentary time (% time/waking period) was the main outcome. A two-way ANOVA was conducted to test main effects for L-Cat response and study group and L-Cat x study group interaction. Trend analysis and posthoc comparisons (Tukey-corrected) were conducted. Participants ($n=20$) were 47±9 years of age, predominantly men (65%), Caucasian (72%), and obese (BMI = 31±8 kg/m²). US Veteran (84% men) and community-dwelling adult (46% men) samples differed only by gender ($p=.03$). There was a significant main effect for L-Cat response category ($F[4,26]=4.7$, $p<.001$) but non-significant main effects for study group and L-Cat x study group interaction. The trend analysis was significant ($p<.01$) with posthoc significance observed between category 1 vs. category 2 ($p=.03$), category 2 vs. category 3 ($p=.01$), and category 3 vs. category 4,5+ ($p=.04$). The L-Cat screener may be a useful tool for identifying individuals that have excess sedentary time (i.e., sit too much), in addition to those that are insufficiently active (i.e., do not participate in sufficient moderate-vigorous physical activity). Future research should assess the L-Cat's sensitivity to change in sedentary behavior.

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Symposium 33C

MOVEMORE: EFFECTS OF A BEHAVIORAL AND HEALTH LITERACY INTERVENTION ON THE STANFORD LEISURE-TIME ACTIVITY CATEGORICAL ITEM

Dr. Jamie M. Zoellner, Ph.D. R.D.

Rural communities and low health literate residents are disproportionately impacted by disparities related to the lack of physical activity. The objective of this RCT is determine 6-month effects on the Stanford Leisure-Time Activity Categorical Item (L-CAT) for an intervention targeting physical activity (MoveMore), relative to matched contact non-physical activity comparison group. Secondary objectives are to evaluate if health literacy (HL) moderated L-CAT changes and examine relationships among changes in L-CAT and clinical outcomes (i.e., BMI, lipids, glucose, blood pressure). Guided by HL strategies and the Theory of Planned Behavior, the 6-month interventions included 3 small-group classes, 1 teach-back call, and 11 interactive voice response calls. Validated measures and/or standardized procedures were used to assess self-reported physical activity (L-CAT, 1=inactive, 6=very active), HL (Newest Vital Sign), and clinical variables. Mixed-effect models and correlational analysis are presented using intention-to-treat procedures. Targeting a medically underserved rural region in southwest Virginia, 1,056 adult participants were screened, 620 (59%) eligible, 301 (49%) enrolled and randomized, and 296 included in this analyses. Participants were 93% Caucasian, 81% female, 31% \leq high-school educated, 43% $<$ \$14,999 household income, and 33% low health literate. MoveMore participants significantly improved L-CAT score by 0.40 (95% CI=0.28, 0.51, $p<.001$) when compared to the non-significant 0.15 (95% CI=-0.08, 0.37, $p=.21$) change in the comparison group (relative effect $p=.02$). Baseline HL status did not moderate L-CAT changes ($p=.66$) [e.g. for the MoveMore condition, L-CAT improved 0.36 (95% CI=0.22, 0.50) for high HL participants and 0.48 (95% CI=0.12, 0.84) for low HL participants]. Improvements in L-CAT were significantly correlated with BMI ($r=-0.12$), total cholesterol ($r=0.16$), and LDL ($r=0.16$). The L-Cat is useful for assessing physical activity behaviors among disadvantaged communities. MoveMore is effective at improving L-CAT scores. By using HL-focused strategies, the intervention was robust in achieving physical activity improvements for participants of varying HL status.

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Symposium 33D

L-CAT IDENTIFIES A HIGH-RISK SUBGROUP OF NORMAL-WEIGHT, INACTIVE MOTHERS ON KEY HEALTH AND SOCIAL INDICATORS, GROW (2012-2013)

Dr. Michaela Kiernan, Ph.D.

A brief, easy-to-use tool to assess a full range of activity levels among ethnically-diverse populations in large epidemiological surveys is needed. We have previously demonstrated the Stanford Leisure-Time Activity Categorical Item (L-Cat)—a single item comprised of six descriptive categories ranging from inactive to very active including multiple clinically relevant patterns—had excellent reliability, validity, and sensitivity of change among overweight/obese women in a randomized intervention trial. In addition, the L-Cat item identified twice as many inactive women in a representative sample of California women than BRFSS state-level estimates. Here, we examined whether the L-Cat categories were able to differentiate among normal, overweight, and obese women on key health and social indicators. The Geographic Research On Wellbeing (GROW) study (2012-2013) is a representative sample that includes 1255 ethnically diverse California mothers 25–44 years old who completed a mail survey including the 1-item L-Cat. The L-Cat identified a subgroup at high risk—normal-weight, inactive mothers. Nearly 33% of normal-weight mothers reported being inactive. They were consistently at higher risk on key health indicators than normal-weight women who met national activity recommendations. Normal-weight inactive mothers were half as likely to engage in healthy dietary habits as normal-weight mothers who met activity recommendations (17.9%; 95% CI, 11.9–24.0 versus 40.7%; 95% CI, 34.1–47.3, respectively); less likely to report their health as excellent (19.2%; 95% CI, 12.9–25.5 versus 61.4%; 95% CI, 54.7–68.1) and less likely to report that most of their friends exercised regularly (48.1%; 95% CI, 39.6–56.6 versus 72.8%; 95% CI, 66.5–79.0). The L-Cat has timely potential across weight levels for clinical and epidemiological use such as tracking physical activity in state-wide surveys among ethnically diverse populations on important health and social indicators.

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Symposium 34

1:45 PM-3:00 PM

GENOMIC LITERACY AND COMMUNICATION FOR HEALTH PROMOTION: INSIGHTS ACROSS HEALTH CONDITIONS

Kimberly A. Kaphingst, ScD¹, Erika A. Waters, PhD, MPH², Susan Persky, PhD³, Catharine Wang, PhD, MSc⁴, William Klein, PhD⁵¹University of Utah, Salt Lake City, UT; ²Washington University School of Medicine, St Louis, MO; ³National Human Genome Research Institute, NIH, Bethesda, MD; ⁴Boston University School of Public Health, Boston, MA; ⁵National Cancer Institute, Rockville, MD

Genomic literacy has been defined as the capacity to obtain, process, understand and use genomic information for health-related decision making (Hurle et al., 2013). The interpretation of genomic information often hinges on prior beliefs and representations of the role that genomics plays in the manifestation of health and disease. Greater insights into how individuals understand and process genomic information will enable behavioral scientists to design more effective strategies to communicate and translate genomic advances for health promotion. This symposium highlights recent work investigating the nature and role of genomic beliefs, with a focus on whether, how, and under what conditions prior causal beliefs influence how people respond to new genomic information. The studies used varied methodological approaches and examined a diverse set of health conditions including nicotine addiction, obesity, and colorectal cancer. Areas of convergence and divergence between studies will be highlighted. The first speaker will report on the results of a qualitative study examining smokers' conceptualizations of nicotine addiction, and describe how prior causal beliefs shaped acceptance or rejection of a video message linking genetics to nicotine addiction. The second speaker will discuss an experiment in a virtual reality clinical setting that examines the structure of causal beliefs about body weight among overweight women, how it relates to weight self-efficacy and self-stigma, and the impact of genomic etiology information on the nature of these beliefs. The third speaker will present the results of an online experiment that examined the relationship between existing colorectal cancer (CRC) causal beliefs and lifestyle behaviors, and tested the effects of genetic and environmental risk factor messages on modifying CRC causal beliefs, perceptions of response efficacy and disease controllability, and behavioral intentions. Finally, the discussant will conclude by identifying commonalities and differences in how genomic beliefs function across health conditions, highlight the broader psychological and behavioral implications of the research presented, and suggest future directions for genomic communication efforts aimed at improving health behaviors.

Symposium 34A

"IT SOUNDS LIKE SOME BS": ACCEPTANCE AND REJECTION OF GENETIC HEALTH MESSAGING

Erika A. Waters, PhD, MPH

Objective: Effective translation of genomics research into clinical and public health practice depends, in part, on the extent to which the public accepts genomics-related health messaging. This study explored how smokers came to accept or reject information about the link between genetics and nicotine addiction.

Methods: Cigarette smokers (N=85) participated in 1 of 13 focus groups and 1 interview. Groups were stratified by education (7<Bachelor's degree, 7≥Bachelor's degree) and race (8 black, 6 white). Genetics knowledge and causal beliefs of nicotine addiction were assessed. Participants were then shown a 1-minute video about the discovery of a genetic variant associated with increased severity of nicotine addiction and asked to provide their opinions about the information. Two independent coders used an adapted grounded theory approach to analyze the data.

Results: Beliefs about why people smoke ("stress," "hereditary," "choice," "addiction") and the meaning of the term *genes* ("family history," "DNA," "chance") informed nicotine addiction causal beliefs (nicotine addiction is/is not genetic, is/is not dependent solely on "choice" or "willpower") and genetic determinism beliefs. These beliefs formed the context through which participants processed the video. This, in turn, led to message acceptance or rejection, which was verbalized by evaluating the scientific merits of the research (sample size/demographics, funding agency) and by using pre-video knowledge and beliefs to explain acceptance or rejection of the message. For example, discussing genetics in Mendelian terms, endorsing genetic determinism, and believing that smoking and smoking cessation are up to "choice" or "willpower" were mentioned by people who rejected the message. Discussing genetics as probabilistic and attributing smoking to "addiction" were associated with message acceptance.

Conclusion: Laypeople hold complex understandings of genetics and addiction. However, when lay and biomedical explanations diverge, genetics-related health messaging may be rejected.

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Symposium 34B

INFLUENCE OF GENOMIC CAUSAL INFORMATION ON THE STRUCTURE AND MEANING OF BODY WEIGHT CAUSAL BELIEFS

Susan Persky, PhD

Objective: Individuals' beliefs about what causes overweight are linked to important psychological and behavioral outcomes. The factors influencing obesity are multifaceted and interactive. However, assessments of lay individuals' beliefs often fail to capture this complexity and consider causal factors in siloed, non-interactive ways. This study explores the structure of causal beliefs about body weight among overweight women, how that structure relates to weight self-efficacy and self-stigma, and how it changes after exposure to information about genomic (gene-environment interaction) factors in body weight in a simulated clinical setting.

Method: We analyzed data from 200 women who are overweight, and were randomly assigned to receive genomic or behavioral causal information about weight from a virtual reality-based physician. Variables were assessed at baseline and after information provision. Causal beliefs were assessed with 15 items (Ogden et al., 2001).

Results: Principle components analysis yielded five causal factors [biological (including genetics), psychological, behavioral, structural, and social]; all were highly correlated at baseline. All except biological causes were associated with self-stigma; only psychological causes were associated with self-efficacy. Following genomic information provision, patterns were substantially different such that biological causes were uncorrelated with all others, but were associated with self-stigma ($B=.37$, $p<.01$) and self-efficacy ($B=-.39$, $p<.05$). Patterns following behavioral information provision differed substantially from those following genomic information and from baseline.

Conclusion: Causal belief structures can change substantially following exposure to causal information, not only in their level of endorsement, but also in the psychological meaning of endorsing a given cause. We found that biological causal beliefs were undifferentiated and unrelated to self-stigma and self-efficacy until individuals were provided reference information to give shape to their beliefs. It is therefore important to consider frame of reference when assessing the relationship between weight-oriented causal beliefs and health-relevant outcomes.

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Symposium 34C

PSYCHOSOCIAL IMPACT OF COMMUNICATING OF GENETIC AND ENVIRONMENTAL CAUSES OF COLORECTAL CANCER: A FACTORIAL EXPERIMENT

Dr. Catharine Wang, PhD, MSc

Objective: Causal beliefs for colorectal cancer (CRC) may influence the extent to which people take action to reduce their risks. We set out to examine the relationship between CRC causal beliefs and health behaviors. We also tested the impact of presenting genetic and environmental risk factor information on modifying causal beliefs and psychosocial outcomes, using a 2 x 2 factorial study design.

Method: A total of 502 participants from the Knowledge Networks panel took part in the online study. Surveys were administered at baseline and 3 month follow-up. Four messages varying in their inclusion of genetic (G present/absent) and environmental (E present/absent) risk factors were randomly presented, prior to the follow-up survey.

Results: Highly endorsed CRC causes included heredity (83%), genes/DNA (80%), and diet/eating habits (78%); other lifestyle causes (exercise, overweight) were endorsed less (41%-49%). Endorsement of heredity and DNA causes were positively associated with meeting CRC screening recommendations at baseline ($pp = .002$). For genetic beliefs, a significant G x Time interaction was observed for genetic beliefs; receiving the genetic message slightly increased genetic beliefs, whereas, not receiving it decreased these beliefs ($p = .018$). Significant E x Time interactions were also seen for both diet ($p = .030$) and exercise ($p = .001$) response efficacy; with increases observed among those receiving environmental messages. G x Time and E x Time interactions were both seen for perceived control, such that both genetic ($p = .02$) and environmental ($p < .01$) messages increased perceptions of CRC controllability, but the three-way interaction was not significant suggesting G and E are not synergistic. There were no significant interactions with time on behavioral intentions (diet, exercise, screening).

Conclusion: Environmental risk factor messages for CRC can have positive effects on causal beliefs, efficacy and controllability perceptions. Genetic messages appear to have minimal effects, which may be attributed to high baseline endorsement of genetic causes for CRC.

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Symposium 35

1:45 PM-3:00 PM

LEARNING FROM SSB TAX EVALUATIONS IN MEXICO, SOUTH AMERICA, AND THE U.S. TO REVERSE CHILDHOOD OBESITY

Lori Dorfman, DrPh¹, Lynn Silver, MD, MPH, FAAP², Shu Wen Ng, PhD³, Steven L. Gortmaker, PhD⁴, Mauricio Hernández-Avila, MD, MPH, ScD⁵¹Berkeley Media Studies Group, Berkeley, CA; ²Public Health Institute, Oakland, CA; ³Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC; ⁴Harvard University School of Public Health, Boston, MA; ⁵National Institute of Public Health, Mexico, Cuernavaca, N/A, Mexico

This symposium is designed to present lessons learned regarding sugar sweetened beverage (SSB) taxes in Mexico, South America, and the United States. Presenters and discussants will provide an overview of the importance of SSB taxes, evaluation data available to date, and the successes that have been seen. The panel will also present the implications this has for reversing childhood obesity in the United States.

Symposium 35A

LEARNING FROM SSB TAX EVALUATIONS IN MEXICO, SOUTH AMERICA, AND THE U.S. TO REVERSE CHILDHOOD OBESITY

Dr. Lynn Silver, MD, MPH, FAAP

This symposium is designed to present lessons learned regarding sugar sweetened beverage (SSB) taxes in Mexico and South America. Presenters and discussants will provide an overview of the importance of SSB taxes, evaluation data available to date, and the successes that have been seen. The panel will also present the implications this has for reversing childhood obesity in the United States.

Dr. Dorfman will chair this panel, providing an overview of the importance of Mexico and Oakland/Berkeley's SSB tax successes, implications for the US and include a brief overview of topline findings of a media analysis, highlighting implications for the US – research/practice, or lessons learned for US.

Symposium 35B

LEARNING FROM SSB TAX EVALUATIONS IN MEXICO, SOUTH AMERICA, AND THE U.S. TO REVERSE CHILDHOOD OBESITY

Dr. Shu Wen Ng, PhD

This symposium is designed to present lessons learned regarding sugar sweetened beverage (SSB) taxes in Mexico and South America. Presenters and discussants will provide an overview of the importance of SSB taxes, evaluation data available to date, and the successes that have been seen. The panel will also present the implications this has for reversing childhood obesity in the United States.

Dr. Ng will describe and present the findings of the RWJF and Bloomberg Philanthropies-funded evaluation of the Mexico Sugar Sweetened Beverage (SSB) tax, the first such tax in the world to be evaluated. Shu Wen will also highlight emerging research opportunities with US implications such as the Chilean SSB tax (went into effect Jan 2015).

Symposium 35C

LEARNING FROM SSB TAX EVALUATIONS IN MEXICO, SOUTH AMERICA, AND THE U.S. TO REVERSE CHILDHOOD OBESITY

Dr. Steven L. Gortmaker, PhD

This symposium is designed to present lessons learned regarding sugar sweetened beverage (SSB) taxes in Mexico and South America. Presenters and discussants will provide an overview of the importance of SSB taxes, evaluation data available to date, and the successes that have been seen. The panel will also present the implications this has for reversing childhood obesity in the United States.

Dr. Gortmaker will act as the Mexico-US “bridge”, describing research being done in Mexico to assess the cost effectiveness of the SSB tax and the CHOICES study of SSB excise tax effects in the US.

Thursday
March 31, 2016
3:15 PM-4:45 PM

Paper Session 13

3:15 PM-3:33 PM

INSURE ME CANCER FREE

Kimberly M. Kelly, PhD¹, Stephenie K. Kennedy, EdD², B Dolly, MS¹, E Atkins, MS³, M Coon⁴, K King, RN⁵, S Rouse⁶¹West Virginia University, Morgantown, WV; ²Mary Babb Randolph Cancer Center, Morgantown, WV; ³West Virginia University, Morgantown, WV; ⁴Aetna (Coventry Cares of WV), Charleston, WV; ⁵Aetna (CoventryCares of WV), Charleston, WV; ⁶CoventryCares of WV, Charleston, WV

Introduction: The Appalachian region has some of the poorest health outcomes in the country with elevated cancer morbidity and mortality. Particularly troubling, WV has very high rates of invasive breast and colorectal cancers, largely associated with low cancer screening rates. Our university-insurance company partnership sought to address this disparity through a behavioral science theory-driven, triage intervention to increase cancer screening among a Medicaid-insured population. **Methods:** First, a letter and website were developed to promote cancer screening and were administered to plan members needing screening (breast cancer screening: n=233; colorectal cancer screening: n=331). After 6 months, a randomly-selected sample of those remaining with the insurance company and continuing to need screening received Self-regulation model and Stages of change-guided case management counseling (n=49). Afterwards, telephone surveys (n=13) were completed with a subset to determine their satisfaction with the intervention. **Results:** Baseline screening rates were 40% for breast cancer and 26% for colorectal cancer. Key informants (community workers: n=2, case managers: n=5, and community individuals: n=12) provided feedback on the letter and website, including key messages, which resulted in improved readability, organization, and informational content. The letter had minimal impact on screening rates within 6 months (breast: n=8; colon: n=5). The counseling intervention included women (n= 22) and men (n=27), only 20% of whom reported receiving the letter. Following counseling, screening rates further increased (breast: n=30; colon: n=13). Satisfaction with the telephone counseling was high (Likert: M=5.8 on a 1-7 scale). Qualitative responses indicated plan members liked the personalized approach and appreciated learning more about cancer, that you need to “catch it early for good treatment.” All of the participants understood the counseling and believed the information presented was correct. Nearly all intended to get screened for breast and/or colorectal cancer (M=6.2 on a 1-7 scale). **Conclusion:** Our theoretically-driven, case management counseling intervention was well received and can be effective in increasing cancer screening rates in an underserved population.

Funded by Benedum Foundation and supported by CoventryCares of WV Insurance Company

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MERITORIOUS AWARD WINNER Paper Session 13 3:33 PM-3:51 PM

PERCEIVED LIFE EXPECTANCY IS ASSOCIATED WITH COLORECTAL CANCER SCREENING UPTAKE IN ENGLAND

Lindsay Kobayashi, PhD, Christian von Wagner, PhD, Jane Wardle, PhD

University College London, London, United Kingdom

Cancer screening is a behaviour that represents investment in future health and such investment may depend on how much 'future' one expects. We investigated the prospective association between perceived personal life expectancy and participation in an organised national programme for colorectal cancer (CRC) screening. Data were from in-person interviews with 3975 men and women in the English Longitudinal Study of Ageing (ELSA) who were within the 60–74 year age range for England's national CRC screening programme using home-based faecal occult blood testing (FOBt). Perceived life expectancy was indexed as the individual's own estimate of their chance of living another 10–15 years (exact time varied by age), assessed by interview in 2008/09. Participation in CRC screening through the national programme from 2010 to 2013 was assessed by interview in 2012/13. Logistic regression was used to estimate associations between perceived life expectancy and CRC screening (yes vs. no), adjusted for numeracy skills and risk factors that are predictors of actual mortality (age, sex, education, ethnicity, marital status, smoking status, age of parents at death, self-reported general health, and diagnoses of cancer, cardiovascular disease, high blood pressure, and chronic lung disease). Overall, 71% of respondents (2817/3975) reported being screened at least once over the follow-up period. Six percent (243/3975) of respondents estimated their chance of living another 10–15 years as 0–25%, while 7% (312/3975) estimated a 25–49% chance, 44% (1737/3975) estimated a 50–74% chance, and 42% (1683/3975) estimated a 75–100% chance. Those who estimated their 10–15 year life expectancy as 50–74% and 75–100% had significantly higher odds of CRC screening over the follow-up period than those who estimated 0–25% (adj. OR=1.53; 95% CI: 1.15–2.04 for 50–74% vs. 0–25% and adj. OR=1.75, 95% CI: 1.30–2.35 for 75–100% vs. 0–25%; p for linear trend < 0.0001). Thus, perceived life expectancy appears to be associated with participation in CRC screening in England. Given that cancer screening is not recommended for adults with a life expectancy of less than 10 years, a future research direction is to investigate the reasons why some adults with low perceived life expectancy still attended cancer screening.

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Paper Session 13 3:51 PM-4:09 PM

SMOKERS' INTEREST IN A NATIONAL LUNG CANCER SCREENING PROGRAMME

Samantha Quaife, MSc, Andy McEwen, PhD, Charlotte Vrinten, MSc, Samuel Janes, MBBS, BSc, MSc, PhD, Jane Wardle, PhD

University College London, London, United Kingdom

Background: Effective implementation of lung cancer screening depends on adequate uptake by high risk candidates, yet smokers' participation in trials has been consistently poor within the US and the UK. Surveys of the US population have begun to identify a lack of interest among smokers. We intended to collect comparable data within the UK where screening is not currently recommended, to ascertain interest in and acceptability of a national lung cancer screening programme, and explore whether smoking status divides opinion. **Methods:** A population-representative sample of English adults ($n=1451$, aged 50–70) completed face-to-face computer-assisted interviews as part of the Attitudes, Behaviour and Cancer UK Survey (ABACUS). Single item measures assessed intention to be screened, beliefs about survival and treatment, support for screening, stigma around offering screening to smokers, and lung cancer worry. **Results:** Overall, most respondents acknowledged that lung cancer screening was a good idea in principle (93%) and said they would take up an invitation from the National Health Service (85%) or their GP (92%). However, around one fifth thought screening smokers was a waste of NHS money and many lacked confidence that early detection could offer survival benefit. This was particularly the case for smokers (40%), who were less likely than former smokers (51%) to think chances of survival would be good (OR: 0.65, 0.47 to 0.89; $p < .01$) or that they would undergo surgery for a screen-detected early stage cancer (OR: 0.41, 0.23 to 0.72; $p < .01$). Worry about lung cancer was most prevalent among current smokers (47%), with the odds of worrying at least occasionally 2.3 times higher than former smokers (1.64 to 3.19; $p < .01$). **Conclusions:** Intention to be screened was universally high; markedly higher than actual levels of uptake observed in research trials. Current smokers' relative lack of optimism about early detection, the prospect of surgical treatment, and their more frequent worry about lung cancer are consistent with US data and could undermine intentions to be screened.

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Paper Session 13 4:09 PM-4:27 PM

LACK OF FOLLOW-UP AFTER ABNORMAL PAP TEST IN MEDICAID POSTPARTUM WOMEN

Sabrina Ford, PhD

Michigan State University, East Lansing, MI

For many pregnant women enrolled in Medicaid sponsored prenatal care presents the opportunities to receive a complete gynecological exam. Some pregnant women are found to have an abnormal pap test, but because methods of further testing and treatment can be risky during pregnancy, consequential treatment should occur after delivery. The purpose of our study is examine follow-up to abnormal pap tests in Medicaid insured postpartum women. **Methods:** Using Medicaid records of women enrolled in an enhanced prenatal program in Michigan, we examined follow-up rates of women with an abnormal pap found during prenatal visits. We classified the rates by diagnostic codes including: 1) Abnormal papanicolaou smear of cervix; 2) cervical cancer in situ (CIS); 3) cervical intraepithelial neoplasia (CIN). **Results:** 47,983 women had a pap test in 2013 of these, 6071 (13%) had an abnormal pap test during pregnancy. For all diagnoses, 56% post-natal women did not return. By diagnostic codes for these 6071 women; 59% had an abnormal pap smear, 6% had CIS, and 45% had CIN. We will also describe demographic characteristics. **Discussion:** Lack of follow-up to an abnormal pap is disparagingly high in this population of post-natal women and can lead to cervical cancer and even death. In general, low-income and minority women have low follow-up rates after delivery due to largely due to barriers (e.g. transportation, lack of child-care). Several other may also factors may contribute to lack of follow-up including: medical mistrust, fear and shame of the patient and health provider lack of adequate referral. This report will allow us discussing to explore contributing mechanisms to lack of follow-up.

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CITATION AWARD WINNER Paper Session 13 4:27 PM-4:45 PM

MEN'S PROSTATE AWARENESS CHURCH TRAINING (M-PACT) FOR AFRICAN AMERICAN MEN: MEN-ONLY VS. MIXED-GENDER MEN'S HEALTH WORKSHOPS

Cheryl Holt, PhD¹, Daisy Le, MPH/MA¹, Min Qi Wang, PhD¹, Jimmie Slade, MA², Bettye Muwakkil, PhD³, Ralph Williams, BS⁴, Michael Naslund, MD⁵

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The M-PACT trial aimed to compare a men-only vs. a mixed-gender approach to increasing informed decision making for prostate cancer screening in African American men. Eighteen African American churches were randomly assigned to either the male-only or the mixed-gender "health partner" intervention. In the health partner group, the male participants were asked to bring a significant woman in their lives (e.g., spouse/girlfriend; daughter; mother; friend) with them to the workshops. In all churches, the study team trained and certified 2 lay community health advisors in each church, who then conducted a series of 4 men's health workshops on informed decision making for prostate cancer screening. Male study participants ($N=289$) completed a baseline survey as well as post-workshop and a final 12-month follow-up survey. Including women in the M-PACT intervention was challenging to implement and resulted in limited enrollment and participation among the men. Contrary to our expectations, including women did not improve the M-PACT intervention efficacy. For most of the informed decision making outcomes, both study groups improved over time ($p < .05$). For knowledge about prostate cancer, the men-only group actually reported greater pre-post increases than the health partner group. However, for prostate specific antigen screening, it appeared that including women may have been beneficial, as the health partner group had greater pre-post increases than did the men-only group ($p < .05$). Finally, in the overall sample, men who attended more workshops (e.g., 3 or 4) had better informed decision making outcomes than men who only attended 1 or 2 workshops ($p < .05$). We discuss these findings as well as implications for future community-engaged interventions targeting African American men.

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Paper Session 14

3:15 PM-3:33 PM

WHO DECIDES? SELF-SELECTED VERSUS ASSIGNED GOALS FOR WEIGHT LOSS IN A VETERAN POPULATION

Mona AuYoung, PhD, MS, MPH¹, Laura J. Damschroder, MS, MPH², Maria Hughes, MPT³, Bradley Youles, MPA⁴, Robert G. Holliman, MPH⁵, Caroline R. Richardson, MD⁶¹VA Ann Arbor/ Center for Clinical Management Research, Ann Arbor, MI; ²VA, Ann Arbor, MI; ³VA Center for Clinical Management Research, Ann Arbor, MI; ⁴Department of Veterans Affairs, Ann Arbor, MI; ⁵VA Center for Clinical Management Research, VA Ann Arbor Healthcare System, Ann Arbor, MI; ⁶University of Michigan, Ann Arbor, MI

Goal setting has been associated with greater likelihood of successful outcomes for behavioral changes such as weight loss. However, there are many characteristics of goals that also influence outcomes, including goal specificity, proximity, and acquisition. The literature indicates that greater success is associated with more specific, measurable goals that are also more proximal. Within health behavior, there is a trend towards the use of patient-centered goals (rather than assigned goals) based on Self-Determination Theory. However, there are no known studies that link the goal acquisition with outcomes. This secondary analysis will assess the impact of goal type on patient outcomes within a Veteran population.

In a pragmatic trial, eligible Veterans were randomly selected into one of three study arms: in-person diabetes prevention program (DPP), online DPP, and a usual care weight management program. One main program difference was whether health-related goals were determined by the patients themselves or assigned to them. Otherwise, all three arms were designed to help patients achieve weight loss through changes in physical activity (PA) and diet. This sample includes patients who completed questionnaires at 12-months post-intervention. Patient weights were provided through clinical data sources.

The majority of patients reported setting their own goals for weight loss (64%), PA (64%), and/or diet (40%) rather than having goals set by a provider or program or by using a collaborative process of goal setting. Participants who set their own goals lost 11.07 lbs more weight compared to participants who had goals set for them ($p=0.014$) and 4.45 lbs more weight than those who collaboratively set goals ($p=0.04$). Goal type was not associated with diet or PA outcomes, however. For weight loss, these results provide support for programs that are moving increasingly toward more patient-centered care which includes encouraging patients to set their own goals.

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Paper Session 14

3:33 PM-3:51 PM

ACCEPTANCE-BASED BEHAVIORAL WEIGHT LOSS TREATMENT OUTPERFORMS STANDARD BT: OUTCOMES FROM THE MIND YOUR HEALTH STUDY

Evan Forman, Ph.D.¹, Meghan L. Butryn, PhD², Stephanie Manasse, MS¹, Emily Wyckoff, BA¹, Stephanie Goldstein, B.S.¹, Adrienne Juarascio, Ph.D.¹¹Drexel University, Philadelphia, PA; ²Drexel University, PHILADELPHIA, PA

Mindfulness- and acceptance-based behavioral treatments (ABTs; i.e., approaches that fuse behavioral strategies with tolerance of difficult internal experiences and loss of pleasure, mindful decision making and commitment to valued behavior) have been recognized as potential enhancements to the efficacy of gold standard behavior treatment (SBT) for weight loss. However, only one full randomized controlled trial testing this hypothesis has been published to date.

In the current study, overweight and obese (BMI 27-50 kg/m²) participants ($n = 190$) were randomly assigned to 25 sessions of SBT or ABT over a 1-year period. Assessments were conducted at pre-treatment, 6-months, and post-treatment. At the 1-year (post-treatment), using last-observation-carried-forward imputation, ABT produced significantly greater percent weight loss (13.4%) compared to SBT (10.4%; $p=.01$). The advantage of ABT was especially strong in participants with poor inhibitory control and reduced ability to delay reward (interaction effects $p=.04$ and $p=.03$). Both ABT and SBT increased physical activity from pre to post treatment ($p<.001$), with no effect of treatment condition. However, delayed discounting again moderated the effect of treatment, such that those with reduced ability to delay reward showed greater increased in physical activity in ABT versus SBT ($p=.04$). Bootstrap analyses revealed that change in acceptance of cravings and urges to eat in the first six months of treatment mediated the effect of treatment condition on percent weight loss ($t = 1.35$, CI: .46- 2.64).

Whereas traditional mindfulness approaches (e.g., emphasizing body awareness and compassion) have not proved efficacious for weight loss, this randomized trial further supports the efficacy of infusing acceptance and commitment strategies into standard behavioral weight control interventions. Moderation effects suggest that those with greater impulsivity would especially benefit from assignment to ABT, and mediation findings implicate acceptance of cravings and urges as a primary mechanism of ABT treatment.

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Paper Session 14

3:51 PM-4:09 PM

ALTERNATING BETWEEN LARGE AND MODERATE ENERGY REDUCTIONS PROMOTES WEIGHT LOSS IN A BEHAVIORAL OBESITY INTERVENTION

Gareth Dutton, PhD¹, Michael G. Perri, Ph.D.², Marissa A. Gowey, PhD¹, Kevin Fontaine, PhD¹¹University of Alabama at Birmingham, Birmingham, AL; ²University of Florida, Gainesville, FL

Background: Large deficits in energy intake ($\geq 1,000$ kcal/d) are associated with greater and more rapid weight loss during behavioral obesity treatment, although adherence may be more difficult to sustain than moderate deficits (~ 500 kcal/d). Regardless of the magnitude of energy restriction (ER), prescribed caloric goals typically remain constant during treatment.

Objective: To examine whether alternating between periods of large and moderate ER results in significant weight reduction. **Methods:** Adults with obesity ($N=17$; mean age=46 years; mean weight=95.6 kg) participated in a 16-week behavioral weight loss program in which they alternated, on 2-week intervals, between moderate (500 kcal/d) and large (1,000 kcal/d) ERs calculated from basal metabolic rate. Participants were compared to a non-randomized comparison group of participants ($n=26$) prescribed a fixed deficit of ~ 750 kcal/d. **Results:** Participants alternating between large and moderate ER lost $9.3 \pm 5.6\%$ body weight at week 16 ($p < 0.01$, within-group) compared to the control group that lost $6.2 \pm 4.4\%$ ($p=0.10$, between-group). Self-monitoring records indicated mean ERs of -902 ± 153 kcal/d and -590 ± 212 kcal/d during weeks of large and moderate ER, respectively, suggesting that participants were generally adherent to both ER goals. **Discussion:** A novel approach that involves alternating between moderate and large ER resulted in clinically meaningful weight loss, which compared favorably in weight outcomes to a conventional, fixed ER goal. An alternating schedule of ER may have biological, behavioral, and/or psychological benefits, such as attenuated metabolic adaptation to reduced intake as well as increased adherence, reinforcement, and treatment novelty. Longer-term, randomized studies with larger sample sizes are needed to confirm these preliminary findings and explore potential mechanisms.

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Paper Session 14

4:09 PM-4:27 PM

ENHANCEMENTS TO BEHAVIORAL WEIGHT LOSS IMPROVE RESULTS FOR AFRICAN-AMERICAN PARTICIPANTS: RESULTS OF THE ENACT CLINICAL TRIAL

Meghan L. Butryn, PhD¹, Evan Forman, Ph.D.², Michael Lowe, PhD³, Amy Gorin, PhD⁴, Fengqing Zhang, PhD³¹Drexel University, PHILADELPHIA, PA; ²Drexel University, Philadelphia, PA; ³DREXEL UNIVERSITY, PHILADELPHIA, PA; ⁴University of Connecticut, Storrs, CT

There are significant disparities, particularly by race, in the effectiveness of behavioral weight loss treatment. While behavioral treatment helps many participants improve their long-term weight control, many others fail to achieve or maintain weight loss targets. Two enhancements to treatment have shown promise for improving outcomes: 1) emphasis on management of the food environment, and 2) use of acceptance-based behavioral strategies, which promote commitment to long-term goals through distress tolerance, values clarity, and mindful decision-making. The ENACT clinical trial was designed to determine if these enhancements improve outcomes, particularly for individuals who find weight loss most challenging. Overweight and obese adults ($n = 283$; 29% African American, 66% Caucasian) were recruited from the community and randomly assigned as follows: standard behavioral treatment (BT), BT with a focus on the food environment (BT+E), or an acceptance-based version of BT that also integrated some environmental strategies (BT+EA). Treatment was group-based and provided in 26 sessions over 12 months. Weight loss from baseline to 12 months was measured in the research clinic. While there was no main effect of treatment condition, race significantly moderated the effect of condition on weight loss in a two-way ANCOVA ($p=.04$), such that African American participants lost less weight than Caucasian participants in the BT (6.2% vs. 11.8%) and BT+E conditions (6.6% vs. 12.2%), but weight loss in these two groups was similar in the BT+EA condition (9.4% vs. 11.8%). Among African-Americans, a clinically significant weight loss (i.e., $>5\%$) at treatment completion also was more likely in the BT+EA condition (80%) than in the BT (57%) or BT+E (48%) conditions ($p=.04$). Among African-American participants in BT+EA vs. BT, a trend was observed for significantly higher attendance ($p=.06$) and higher program satisfaction ($p=.03$). Incorporating acceptance-based strategies into behavioral treatment significantly improved outcomes for African-American participants. Because addressing racial disparities in treatment effectiveness is a key priority, future research should replicate and extend this finding, including through tests of mediational pathways.

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CITATION AWARD WINNER

Paper Session 14

4:27 PM–4:45 PM

MAKE BETTER CHOICES 2: RCT OF A MOBILE HEALTH INTERVENTION FOR SIMULTANEOUS VERSUS SEQUENTIAL DIET AND ACTIVITY CHANGE

Bonnie Spring, PhD,¹ Christine Pellegrini, PhD¹, H.G. McFadden, B.S.¹, Angela Pfammatter, PhD², Juned Siddique, PhD¹, Donald Hedeker, PhD³

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Background: The Make Better Choices 1 (MBC1) intervention increased fruits/vegetables, decreased sedentary leisure, and spontaneously reduced saturated fat intake, but did not increase moderate-vigorous physical activity (MVPA) in adults with 4 risk behaviors: low fruits/vegetables, high saturated fat, low MVPA, high sedentary leisure screen time. The Make Better Choices 2 trial (MBC2) tested the hypothesis that adding physical activity coaching to the MBC1 intervention sequentially rather than simultaneously would maximize change by allowing self-regulation to become automatic via Type 1 processes, thereby conserving effortful Type 2 self-control processes. **Methods:** Adults (n=212) with all 4 risk diet and activity risk behaviors were randomized to 3 different 12-week treatments that used a smartphone app, wireless accelerometer, and remote coaching to: increase MVPA while changing fruits/vegetables and sedentary leisure (*Simultaneous*), improve fruits/vegetables and sedentary leisure first, followed by MVPA (*Sequential*), or improve stress and sleep (*Control*). Intent to treat analyses using linear mixed-effects models compared change in behavior from baseline through 6 and 9 month follow-up. **Results:** Attrition at 9 months was 16% and similar across treatments. Sequential and Simultaneous intervention produced sustained healthy changes compared to Control ($p < .001$) and their effects did not differ. At 9 months, both treatments increased fruit/vegetable intake (mean difference=5.9 credits/day, 95% CI [4.5, 7.2]), decreased leisure screen time (mean difference=126.9 min/day, 95% CI [-153.4, -100.3]), and decreased saturated fat intake (mean difference=3.7%, 95% CI [-5.4, -2.1]). At 6 months, both treatments increased MVPA (mean difference=15.8 min/day, 95% CI [0.7, 30.9]). **Conclusions:** An mHealth intervention incorporating smartphone technology and remote coaching can produce sustained improvements in multiple diet and activity lifestyle behaviors when MVPA is targeted either simultaneously or sequentially with other diet and activity behaviors.

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Paper Session 15

3:15 PM–3:33 PM

DESIGN CONSIDERATIONS FOR SMOKING CESSATION APPS: PERSPECTIVES FROM NICOTINE DEPENDENCE TREATMENT PROVIDERS AND SMOKERS

Jennifer McClure, PhD¹, Andrea L. Hartzler, PhD¹, Emily Westbrook, MHA¹, Sheryl L. Catz, PhD²

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Hundreds of smoking cessation apps are commercially available, but none have been empirically-validated. Most are not even theoretically-based nor are they designed to take advantage of mobile technology in ways that could make them more engaging and possibly more effective (e.g., allow connectivity with clinical experts, adaptively tailor content in real-time). To better inform the design of future apps, we surveyed clinical experts (who understand best practice treatments; n=264) and smokers who own smartphones (the end users; n=40) to assess their opinions and perceived importance of 21 app design features, each chosen to reflect best practice content or ways to leverage mobile technology to support quitting smoking. Items were categorized by domain (cost, reputation, privacy & security, content & user experience, and reputation) and each rated on a 4-pt Likert scale from 'not at all' to 'extremely' important. Most providers agreed that apps hold promise for smoking cessation (76.9%) and would recommend them to their clients (76.1%), especially if the app were empirically-validated (89.4%). However, few believed effective cessation apps currently exist (42.4%). Most providers and smokers agreed the following features were 'very' to 'extremely' important: free or low cost, protection of personal information, the program content matches the users' needs and interests, program content adaptively changes as users' needs and interests change, the program helps with managing nicotine withdrawal symptoms and medication side-effects, and the program allows users to track their progress. Providers and smokers also agreed that gaming and social media connectivity were less important than other features. However, the groups had significantly different opinions about other features (e.g., use of videos, motivational messaging). Considering these stakeholder perspectives will be important for future intervention development. Findings will be discussed and design recommendations made based on the feedback from these two important stakeholder groups.

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CITATION AWARD WINNER

Paper Session 15

3:33 PM–3:51 PM

THE IMPACT OF BMI ON SMOKING RELAPSE IN A TEXT MESSAGING CESSATION PROGRAM FOR YOUNG ADULTS

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Smoking and obesity are two of the leading causes of death, and there is evidence of an inverse association between smoking and body weight. It is possible that body weight may impact smokers' success in quitting. This study explored the association between BMI and smoking relapse in a smoking cessation text messaging program. The data came from a 3-arm RCT for smokers between the ages of 18 and 29 years. Baseline BMI was calculated using self-reported height and weight, and categorized using CDC cut-points. Past seven-day smoking was assessed at 8 weeks post-baseline (end of program), 20 weeks post-baseline, and 32 weeks post-baseline. The association between BMI and smoking status was examined using bivariate chi-square analyses and multivariate logistic regression controlling for age, gender, # of cigarettes per day, and study arm. The full sample (n=4,027) was included in the analysis categorizing non-responders as smokers. Participants were primarily female (70.2%), had a household income of less than \$35,000 (57.3%), a mean age of 24.6 years, and smoked an average of 12.3 cigarettes per day (sd: 8.3). With respect to BMI, 5.1% of participants were underweight, 42.0% were of normal weight, 24.6% were overweight, and 28.4% were obese. Overall, 65.5% of participants (n=2,639) reported smoking in the past 7 days at the end of program assessment. However, there was a linear association with BMI category – those who were obese were least likely to report smoking (60.7%) and those who were underweight were most likely to report smoking (74.2%) ($p < 0.01$). In multivariate analyses, those who were obese had a 0.72 lower odds of reporting smoking (95% CI: 0.61, 0.84) compared to those of normal weight. This difference, obese participants being less likely to report smoking than normal weight participants persisted over follow-up assessments (Week 20 assessment – OR: 0.69, 95%CI: 0.59, 0.81; Week 32 assessment: OR: 0.72, 95% CI: 0.61, 0.85). Future research is needed to help explore reasons for these differences. It could be that normal weight smokers are more likely to relapse because they begin to gain weight. Alternatively, obese individuals may be less aware of weight gain or have health complications that motivate them to stop smoking.

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Paper Session 15

3:51 PM-4:09 PM

A RANDOMIZED PILOT STUDY OF A SMOKING CESSATION INTERVENTION IN THE LUNG CANCER SCREENING SETTING

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Objective: The development of effective smoking cessation interventions that can be integrated into lung cancer screening programs will be essential to realizing the full benefit of lung cancer screening. To assess the feasibility and efficacy of a cessation intervention in this setting, we are conducting an ongoing randomized pilot study of telephone counseling (TC) vs. usual care (UC) at 3 lung cancer screening centers. **Methods:** Current smokers (N=67; 61% participation rate) who were registered to undergo lung cancer screening were enrolled in the intervention trial. Smokers with all levels of readiness to quit were included. Participants completed pre-screening (T0) and post-screening (T1) assessments and were randomized to TC (N=32) vs. UC (N=35). Both groups received a list of evidence-based cessation resources, and the TC group received up to 6 brief counseling calls with a trained cessation counselor. Counseling calls incorporated motivational interviewing and utilized the screening results as a motivator for quitting. The final assessment (T2) was conducted at 3-months post-randomization. **Results:** Participants (53.7% female) were 60.2 (SD=5.3) years old, had 49.5 (SD=24.1) pack years, 35% were ready to stop smoking in the next 30 days at T1, and 44% had abnormal screening results. An average of 4.1 (SD=2.4) TC sessions were completed in the TC arm. At the 3-month follow-up, biochemically verified 7-day point-prevalence quit rates were 18.8% (TC) vs. 2.9% (UC), $p < .05$. Further, although not statistically significant due to the small sample, 24-hour quit attempts were greater among TC vs UC participants (62% vs. 50%). Similarly, among those continuing to smoke at 3 months, TC vs. UC participants were more ready to quit (61.5% vs. 44.0%) and were more likely to be smoking ≤ 10 cigarettes per day (46.2% vs. 36.0%). Among self-reported former smokers at 3 months, NRT use was greater among TC vs. UC participants (75% vs. 57%). **Conclusions:** This pilot study provides preliminary evidence that a telephone-based cessation intervention is feasible and efficacious in the lung cancer screening setting among smokers with low readiness to quit. The TC intervention is evidence-based, brief, and scalable, and if cost-effective, can be readily implemented in multiple lung cancer screening programs, thereby reaching a large number of current smokers.

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MERITORIOUS AWARD WINNER

Paper Session 15

4:09 PM-4:27 PM

THE DEVELOPMENT AND DEPLOYMENT OF A MULTICOMPONENT, REAL-TIME, TAILORED INTERVENTION TO REDUCE INDOOR SMOKING

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Despite most home reporting complete home smoking bans, indoor smoking still occurs and poses severe health consequences, especially for children. Particles from a smoked cigarette remain in homes for an average of 55 minutes and can be detected using commercial air particle monitors. Our recently completed pilot study demonstrated that placing particle monitors that deliver real-time feedback in homes of indoor smokers is feasible, acceptable, and may decrease indoor smoking. Building on this previous work and incorporating theoretical constructs from Applied Behavior Analysis, we developed an enhanced multi-component intervention. The intervention consists of real-time colored lights and sounds that alert families when indoor air particle levels indicate tobacco smoking is occurring and continuous rewards for keeping air particle levels low. This multicomponent trial is nested within a larger intervention study which has recruited over 275 homes. This presentation focuses on our experiences with the subset of homes that have been randomized into the real-time, multicomponent intervention group. The multidisciplinary development team included behavioral scientists, epidemiologists, computational scientists, hardware engineers, and software programmers. This presentation will discuss the development and deployment of the real-time intervention including detailed experiences in managing big data, monitoring real-time data transmissions to reduce missing data, and developing a software infrastructure for providing weekly graphical feedback to intervention participants. Data from one intervention home will be used to: (a) illustrate how data were generated, transmitted, cleaned, plotted, and used, and (b) explain how baseline data from each family were used to tailor the intervention to each household. Attendees will learn about real-world experiences with a real-time intervention.

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Paper Session 15

4:27 PM-4:45 PM

ROLES OF FAMILY MEMBERS IN A FAMILY-FOCUSED SMOKING CESSATION INTERVENTION FOR ASIAN AMERICANS

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Background: Our research team found that including family members in smoking cessation interventions yielded promising outcomes in Asian American smokers. However, the roles of family members in the process of smoking cessation are not fully understood. This study aimed to describe the role of family members in a family-focused smoking cessation intervention, as perceived by smokers and family members. **Methods:** We conducted content analyses on comments collected from an open-ended question in follow-up phone surveys of 24 Chinese and 100 Vietnamese dyads (a male daily smoker and a non-smoking family member) that received the family-focused smoking cessation interventions from two studies. Dyads received two group educational sessions and two follow-up phone calls from a lay health worker. The sample consisted of 124 smokers; 124 family members (92% female); 98% foreign born; 96% limited English proficient; 47% >HS education. **Results:** Content analysis revealed that both smokers and family members found that learning about the adverse effects of smoking and secondhand smoke together facilitated communication about smoking. Smokers perceived that their family members (1) motivated them to quit as a means of improving family harmony, and (2) supported their quit attempts through reminders and encouragement. Family members perceived that the educational sessions provided them the knowledge and tools that empowered them to effectively support their smokers to quit. **Conclusion:** By involving smoker and family members together in the family-focused smoking cessation intervention, smoking cessation was facilitated through increasing knowledge, improving communications between smokers and their family members, enhancing smokers' motivation, and empowering family members to provide effective support. Further in-depth investigations to reveal the specific involvements of family members in the process of quitting smoking will guide the design of effective smoking cessation intervention strategies for Asian American immigrant communities.

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Paper Session 16

3:15 PM-3:33 PM

FAITH IN ACTION/FE EN ACCION: FINDINGS FROM A RANDOMIZED CONTROLLED TRIAL PROMOTING PHYSICAL ACTIVITY AMONG LATINAS

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Objectives: Hispanic/Latina women are less likely to engage in leisure time physical activity compared to women from other ethnic/racial backgrounds. Faith-based organizations are a promising setting for promoting preventive behaviors among Latinos. The current trial evaluates an intervention involving *promotoras* (community health workers) targeting different levels of the ecological model to promote physical activity. **Design:** Sixteen churches were randomly assigned to a physical activity intervention or cancer screening comparison condition and about 27 women per church were recruited to serve on an evaluation cohort. **Measurements:** The study's primary outcome was min/wk of moderate-to-vigorous physical activity (MVPA) as assessed by accelerometer. We enrolled 436 Latinas (aged 18-65 years) who engaged in less than 250 min/wk of MVPA at baseline as assessed by accelerometer. The women reported on their leisure time physical activity, dietary intake, strategies used for engaging in physical activity, sleep duration, and social support for physical activity. **Results:** After adjusting for socio-demographic factors, findings of the mixed effects analyses suggested significant increases in accelerometer-assessed MVPA ($p < .032$) 12 months post-baseline in the intervention condition compared to the control condition. The odds of meeting the MVPA recommendations were 66% higher in the intervention condition compared to control ($p < .005$). Furthermore, women in the intervention condition reported using more behavioral strategies for physical activity ($p < .0001$) and sleeping longer (7.02 hours vs. 6.85, $p < .013$) than those in the control condition. No other significant changes were observed by condition. **Summary:** Current study findings suggest that a faith-based intervention led by promotoras can be a culturally sensitive approach in promoting physical activity and other health behaviors among Latina adults.

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CITATION AWARD WINNER
Paper Session 16

3:33 PM-3:51 PM

PASOS HACIA LA SALUD: 12-MONTH OUTCOMES OF A WEB-BASED PA INTERVENTION FOR LATINAS

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Effective, sustainable PA interventions for Latinas are needed since Latinas report the lowest levels of leisure time physical activity (PA) of all major racial/ethnic groups. Pasos Hacia la Salud tested a Spanish-language, culturally adapted, individually tailored, Internet-based PA intervention vs. an Internet-based Wellness Contact Control group. Under-active Latinas ($N=205$, $M_{age}=39.2 \pm 10.5$, 84% Mexican-American) were randomized, and 90% were retained at 12 months (end of maintenance phase), with no significant between group difference in dropout rates. Participants reported significantly more mean minutes of moderate-to-vigorous PA (MVPA) at 12 months (Intervention $M_{min}=108.6 \pm 107.2$ vs. Control $M_{min}=75.9 \pm 89.8$) than they had at baseline ($M_{min}=8.0 \pm 14.9$ vs. $M_{min}=8.5 \pm 14.6$). Results revealed a significant between groups difference in MVPA change from baseline to 12 months ($M_{difference}=30.68$ min/week, $SE=11.27$, $p=.007$) and no significant effect from six to twelve months ($p=.17$), suggesting that changes in MVPA made between baseline and 6 months were maintained through 12 months. After controlling for baseline MVPA and study group, a significant relationship between website use and MVPA at 12 months ($b=0.84$, $SE=0.25$, $p=.001$) was detected, suggesting that more study website logins were associated with greater minutes of MVPA at 12 months regardless of study arm. Overall, results from this low-cost, disseminable web-based PA intervention for Latinas demonstrated that MVPA levels can be significantly increased and maintained over the course of one year and that more frequent use of the website was associated with greater increases in MVPA.

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Paper Session 16

3:51 PM-4:09 PM

PRELIMINARY FINDINGS FROM A "NOT YOGA" STUDY AMONG AFRICAN AMERICAN CHURCHGOERS

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Mind-body (MB) practices are widely accepted as effective for improving physical and psychological well-being, but there is limited data on their use to improve physical activity (PA) in African Americans (AA). This may be due to historical resistance among AA Christians to yoga or meditation practices because of conflicting religious or practice beliefs. Thus, Harmony & Health (HH) was developed as a culturally-adapted MB intervention to increase PA among a church-based sample of sedentary AA adults. HH used culturally appropriate stretches in place of traditional yoga poses and incorporated popular scriptures emphasizing strength, mind, body, etc. Sessions began with an introduction of the scripture of the day, followed by 30 minutes of stretching and 10 minutes of guided relaxation, which asked participants to focus on the scripture, their breath and God. Participants were recruited through an existing church partnership and were 18-65 years, overweight or obese, and sedentary. Eligible participants ($N=50$) were randomized to an MB intervention ($n=26$) or wait-list control ($n=24$) group. Participants in the MB group attended 16 mind-body sessions over 8 weeks, and all participants completed a physical assessment and questionnaires on physical activity and psychosocial factors at baseline (T1) and post-intervention (T2). Eighty percent of participants (95% women, $M_{age}=49.7$, $M_{BMI}=32.8$ kg/m²) completed the T2 assessment, and 72.7% of MB participants attended at least 10 (out of 16) MB sessions. All participants were satisfied with HH and would recommend HH to their friends/family. Findings from this pilot study suggest HH is feasible among church-based AA adults.

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Paper Session 16

4:09 PM-4:27 PM

WOMEN'S LIFESTYLE PHYSICAL ACTIVITY PROGRAM: AFRICAN-AMERICAN WOMEN'S LONG-TERM MAINTENANCE OF PHYSICAL ACTIVITY

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Background: Group interventions combining guidance, self-management, and ongoing support effectively increase physical activity (PA) in African-American (AA) women, but the problem is participants have difficulty maintaining increased PA. The 48-week women's lifestyle PA program for midlife AA women included nurse led group meetings held in six community healthcare facilities, and three telephone conditions (group+ 11personal calls, group+ 11automated calls, group only). Personal calls were brief motivational interviewing and automated calls were motivation tips. Results showed significant improvement in PA measured at baseline, 24 weeks and 48 weeks. These effects did not differ by condition. The **purpose** of this study is to determine midlife AA women's long-term maintenance of PA and determine if maintenance differed by telephone condition. **Methods:** A longitudinal design was used. All 288 participants received a follow-up survey. The survey was conducted by mail, phone or in person. Self-reported PA with the CHAMPS was assessed between 3 and 43 months after completing the intervention. **Results:** 254 women (88.2%) completed the follow-up survey. Linear growth analyses showed that increases in self-reported PA were sustained at follow-up across all three measures: total moderate-vigorous physical activity (MVPA); pppConclusions: Group meetings are a powerful component of PA interventions that have sustained PA into an extended maintenance phase.

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Paper Session 16

4:27 PM-4:45 PM

NO CHANGE IN QUALITY OF LIFE AFTER EXERCISE TRAINING IN AFRICAN AMERICAN MEN: THE ARTIIS STUDY

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The effects of physical activity programs on quality of life and mental health have rarely been documented in African American men. Therefore, we report on changes in quality of life and depressive symptoms in men enrolled in the Aerobic plus Resistance Training and Insulin Sensitivity in African American Men Study (ARTIIS), which is a 5 month randomized exercise training trial.

Insufficiently active 35-70 year old men with a family history of diabetes were randomized into either an exercise training (n = 56) or a healthy living (n = 57) group. The exercise training group combined aerobic and resistance training according to the current national physical activity recommendations, that is 150 minutes of moderate intensity aerobic training and 2 days of resistance training. All exercise sessions were conducted in YMCA facilities. The healthy living group received information promoting healthy lifestyle changes. Quality of life was measured by the Medical Outcomes Short Form Health Survey (SF-36) and depressive symptoms were measured by the Center of Epidemiology Studies Depression Scale (CES-D).

There were no between group differences in the change scores for any of the SF-36 subscales or component summary measures (all p values > 0.056) nor the CES-D (p = 0.852). Concerning the SF-36, there were decreased values for the Physical Functioning subscale for the healthy living (p = 0.028) and the exercise training (p = 0.040) groups. The exercise training group also had decreased Bodily Pain and Physical Component summary measure scores (p = 0.016 & 0.030 respectively). The median raw score was at the maximum value for three of the eight SF-36 subscales for the healthy living group and four for the exercise training group, at both assessment timepoints. In addition, the median change score for all SF-36 subscales was 0. Both study groups showed significant within group increases in CES-D scores (p values < 0.001).

Overall, a community-based exercise training intervention had no effect on quality of life or depressive symptoms in middle-aged African American men at risk for diabetes. Despite statistical significance and changes suggesting worsening functioning, all SF-36 and CES-D scores were within the normal range. These findings are influenced by floor and ceiling effects. Future studies should examine a wider range of psychological variables (e.g. anxiety, stress, anger).

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CITATION AND MERITORIOUS AWARD WINNER
Paper Session 17

3:15 PM-3:33 PM

A NOVEL TRAINING INTERVENTION REDUCES BACK PAIN IN MIDDLE-AGED ADULTS

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Chronic back pain is a growing global issue amongst adults, ranking in the top ten causes of years lived with disability in 188 countries. Improving executive control or attentional focus may reduce pain through self-regulatory mechanisms to gain control over pain-related thoughts. In this randomized controlled trial, participants underwent a novel, 4-week, multi-modal cognitive training (CT) program, or watched videos, followed by 4-month aerobic and resistance training program at a community-based fitness facility. The CT group (N=68) completed 60 minutes of computer-based training (primarily multitasking) and 60 minutes of exergaming (e.g., WiiFit with dual-task components), whereas the attention-control group (N=65) watched health and educational YouTube videos. All participants were given a progressive exercise program, including weekly classes and a supplemental online exercise manual with instructive videos. A questionnaire assessing multiple dimensions of pain experience was given to participants at months 1, 2, and 5, which asked participants to rate their pain at various regions of the body on a scale of 1-5. Exercise adherence was assessed by the exercise leader and total check-ins at the fitness facility was electronically-recorded. Mediation analyses, using the Preacher-Hayes Bootstrap Method, were conducted to determine the effect of CT on pain with exercise adherence as the mediator, and BMI, age, gender, education, having an injury/illness during the study, and dose of CT received (sessions attended) were entered as covariates. There was a significant group effect on perceived back pain intensity from month 1 to 5, i.e., CT condition reduced pain; however, neither attendance ($\beta_{\text{total}}=0.41$, $p_{\text{direct}}=0.40$, $p_{\text{indirect}}=0.01$) nor total check-ins ($\beta_{\text{total}}=0.41$, $p_{\text{direct}}=0.42$, $p_{\text{indirect}}=0.00$) mediated the effect. The results suggest that back pain may be reduced via CT designed to improve self-regulatory functioning. Additional executive control mechanisms will be discussed.

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Paper Session 17

3:33 PM-3:51 PM

PAIN AND QUALITY OF LIFE IN ECONOMICALLY DISADVANTAGED PRIMARY CARE PATIENTS

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Few studies have evaluated pain and health outcomes in diverse, low-income populations. We evaluated associations among pain, psychological distress and quality of life (QOL) in the baseline data from a study testing a new decision support tool for pain management. Overall, 522 English or Spanish-speaking patients with chronic severe pain (pain ≥ 3 months with worst pain $\geq 4/10$ or T-score > 60 on the PROMIS pain interference tool) were interviewed from 6 Federally Qualified Health Centers (FQHCs) in New York. The sample included 142 Blacks, 121 Whites, 219 Hispanics, and 40 identified as "other." Mean age was 53.0 years (SD = 12.6) and women comprised 70.1%; 75.8% had a H.S. education or less; 62.8% earned < \$10,000/year and 22.8% were Spanish-speaking with low acculturation. Mean worst pain severity in the past week was 8.6/10 (SD = 1.6); 90.2% rated worst pain $\geq 7/10$ and 42.7% used opioids, 45.0% non-steroidal anti-inflammatory drugs, and 26.1% behavioral and integrative strategies. Mean global satisfaction with pain care was 3.5/5.0; 33.8% had emergency room visits and 16.2% were hospitalized due to pain in the past 6 months. Anxiety and depressive symptoms (T = 58.5; SD = 12.4; T = 55.6; SD = 11.8) and QOL (physical, T = 35.0; SD = 6.2; mental, T = 37.5; SD = 7.8) were worse than the general population. In multivariate analyses, depressive symptoms ($\beta = -.375$, $p < 0.001$), physical QOL ($\beta = .229$, $p < 0.001$), anxiety symptoms ($\beta = -.207$, $p = 0.001$), pain interference ($\beta = -.139$, $p = 0.001$) and income ($\beta = .106$, $p = 0.004$) explained 54.0% of the variance in mental QOL. Mental QOL ($\beta = .380$, $p < 0.001$), anxiety symptoms ($\beta = .277$, $p < 0.001$), pain interference ($\beta = -.203$, $p < 0.001$), age ($\beta = -.117$, $p = 0.01$), education ($\beta = .117$, $p = 0.013$), income ($\beta = .100$, $p = 0.038$) and satisfaction with pain care ($\beta = .110$, $p = 0.018$) explained 23.7% of the variance in physical QOL. Race/ethnicity was not associated with QOL. These data confirm the importance of psychological distress, pain disability and socioeconomic status on QOL in a diverse FQHC population with chronic severe pain. Future studies may clarify potential modifiers of these associations (e.g., comorbid conditions, pain distress, social resources) to guide treatment strategies in FQHC populations.

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Paper Session 17

3:51 PM-4:09 PM

ECOLOGICAL MOMENTARY ASSESSMENT OF HEADACHE PAIN INTENSITY AND PAIN INTERFERENCE IN WOMEN WITH MIGRAINE AND OBESITY

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BACKGROUND: Migraine involves recurrent attacks of moderate to severe headaches that significantly interfere with daily activities. While headache pain intensity is an important predictor of pain interference in individuals with migraine, no study has ever evaluated: (a) the association in real-time on a per-headache basis, (b) multiple domains of pain interference, and (c) factors that modify the association between pain intensity and pain interference. **METHODS:** Participants were 116 women with overweight/obesity and migraine seeking behavioral treatment to lose weight and reduce headaches as part of the Women's Health and Migraine (WHAM) trial. Ecological momentary assessment (EMA) involving a smartphone-based 28-day daily headache diary and analysis via linear mixed effects models was used to study associations between pain intensity and total- and domain-specific (general activity, mood, walking ability, work, relationships, sleep, enjoyment of life) pain interference scores based on the Brief Pain Inventory. Demographic, anthropometric, psychosocial, and headache characteristics were examined as predictors of pain interference, either independently or as moderators of the pain intensity-interference relationship. **RESULTS:** Headache intensity predicted degree of pain interference for all domains and the total score either as a main effect (coeffs = 0.61-0.78, $p < .001$) or interaction with pain catastrophizing, allodynia (pain sensitivity), and headache management self-efficacy ($p < .005$). Older age and greater allodynia consistently predicted higher pain interference, regardless of pain intensity levels (coeffs = 0.04-0.19, $p < .05$). **CONCLUSIONS:** Pain intensity is a consistent predictor of pain interference across multiple domains on migraine headache days. Pain catastrophizing, allodynia, and headache management self-efficacy were identified as moderators of the association between pain intensity and pain interference, and may thus be promising targets for interventions to reduce pain interference.

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Paper Session 17

4:09 PM-4:27 PM

EMOTIONAL DISTRESS PREDICTS OPIOID USE IN CHRONIC PAIN PATIENTS

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Chronic pain (CP) is the most common, costly, and problematic medical disorder in the United States among both general and clinical populations. Individuals with CP experience higher rates of emotional distress. Opiate analgesic pain medications are frequently a component of treatment approaches for CP, but there is a lack of consensus regarding the efficacy and safety of prolonged use due to concerns including side effects, risks of abuse, dependence, and hyperalgesia. This study examined the relationship between pain severity, emotional distress, and opiate analgesic medication use in CP patients. First, we hypothesized that change in pain severity over the course of treatment would significantly predict change in opiate analgesic medication use and change in emotional distress. Second, we hypothesized that emotional distress would mediate the relationship between pain severity and opiate analgesic medication use. Two-hundred and forty-eight CP patients in a multidisciplinary pain management program were studied over the 4 week program. Patients completed self-report questionnaires measuring pain severity and emotional distress, and medical records confirmed opiate analgesic pain medication use at admission and discharge. Higher levels of pain severity were found to significantly predict higher level of emotional distress ($\beta = .257$; 95% CI = .122 to .377, $p = .003$). Change in emotional distress was found to significantly predict change in opioid use ($\beta = .199$; 95% CI = .078 to .316, $p = .003$). Additionally, change in emotional distress mediated the relationship between change in pain severity and change in opiate analgesic medication use ($\beta = .050$; 95% CI = .017 to .099, $p = .003$). Surprisingly, change in pain severity did not significantly predict change in opiate analgesic medication use. These findings imply that emotional distress plays an important role in the relationship between self-reported pain and opiate analgesic use. Future research should disentangle the relationships amongst pain, emotional distress, and opiate analgesic medication use.

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Paper Session 17

4:27 PM-4:45 PM

PSYCHO-PHYSIOLOGICAL PAIN RESPONSE AMONG INDIVIDUALS WITH COMORBID PAIN AND ADDICTION: LONG TERM IMPLICATIONS

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INTRODUCTION: Among patients with opioid addiction, 80% report pain. Individuals with comorbid pain and opioid addiction are 3-5 times more likely to relapse than those with opioid addiction but without pain. However, little is known about the psycho-physiological links between opioid addiction and pain. The team hypothesized that those on active opioid agonist treatment for opioid addiction and chronic pain relative to opioid-naïve subjects would show altered psycho-physiological pain reactivity and recovery. **METHOD:** 120 chronic pain participants were recruited in 4 groups ($n=30$): 1- current methadone for opioid addiction; 2- current buprenorphine for opioid addiction; 3-history of opioid addiction but with current prolonged opioid abstinence (PA) ($M=121$ weeks; $SD=23.3$); and 4-opioid naïve. Heart rate, galvanized skin conductance (GSC), peripheral temperature, and frontalis EMG were assessed during a cold pressor pain task. **RESULTS:** Active opioid users had delayed Heart Rate reactivity to the pain task compared to the opioid-free groups ($F(3,119)=2.87, p < .04$). The PA group had a similar pattern but at a higher rate than the opioid-naïve group. GSC group \times time analyses showed the PA group had greater baseline stress levels and had greater pain reactivity ($F(3,119)=3.84, p < .02$) than the other 3 groups. Peripheral Temperature analyses indicated that the opioid-naïve group had sustained lower stress reactivity throughout the assessment while the other 3 groups had a higher level, but similar patterns of pain reactivity. ($F(3,119)=9.69, p < .001$). Though not statistically significant ($F(3,119)=1.31, p=.2$) EMG data showed the PA group had a similar baseline as the control group, but exaggerated pain reactivity before returning to the control group level during the recovery phase. **DISCUSSION:** The pattern among the PA group suggests that they experience greater psycho-physiological reactivity to pain without the buffering effect of the opioid agonist. The logical conclusion is that the PA group has developed the skills to tolerate this pain distress which has prevents them from relapsing on opioids. Clinical implications will be discussed.

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Paper Session 18

3:15 PM-3:33 PM

THE RELATIONSHIP BETWEEN BODY IMAGE PERCEPTIONS AND DEPRESSIVE SYMPTOMS IN YOUTH WITH HIV

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Background: Adolescents with HIV may experience poor body image. Body image dissatisfaction has been shown to contribute to psychosocial problems including increased depressive symptoms. As a result, the relationship between body image and depressive symptoms needs to be examined. The current study hypothesized body image perceptions would be significantly related to depressive symptoms. **Methods:** Participants were 143 adolescents, 20.7 years ($SD = 1.98$), 69.2% male, and 95.1% Black/African American. 82 (57.3%) reported to be men who have sex with men (MSM). Participants completed the Center for Epidemiologic Studies Depression Scale – Short Form (CES-D 10) and the Multidimensional Body-Self Relations Questionnaire Appearance Scales (MBSRQ - AS) administered by an Audio Computer-Assisted Self-Interview (ACASI) as part of a prospective, single-center, cross-sectional study. Demographic and clinical data were abstracted from medical records. Logistic regression models were used to evaluate relationships between body image and depressive symptoms. **Results:** Univariate results suggested a relationship between higher depressive symptoms ($OR = 1.94$, 95% CI [0.89 - 4.25], $p=0.09$), the MBSRQ-AS Overweight Preoccupation Scale ($OR = 1.83$, 95% CI [1.20 - 2.79], $p=0.004$) and attributing perceived body changes to ARVs ($OR = 2.75$, 95% CI [1.20 - 6.29], $p=0.01$). In the final multivariate model, attributing perceived body changes to ARVs was significantly associated with higher depressive symptoms ($OR = 2.65$, 95% CI [1.14 - 6.15], $p=0.02$), and preoccupation with overweight was significantly associated with increased depressive symptoms ($OR = 1.66$, 95% CI [1.00 - 2.76], $p=0.05$). **Conclusions:** Adolescents with HIV who perceive body changes related to ARV exposure and have more frequent thoughts and concerns about weight reported higher levels of depressive symptoms. These results highlight adolescent body image as a potential risk factor for increased depressive symptoms. Further research is needed to explore the mechanism of the relationship between depressive symptoms and medication related body changes. Further, future research should also evaluate related health behaviors (e.g., medication adherence) and examine possible socio-demographic differences in body image and depression in these youth.

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Paper Session 18

3:33 PM-3:51 PM

IMPLEMENTATION SCIENCE RESEARCH TO OPTIMIZE PMTCT UPTAKE IN RURAL SOUTH AFRICA

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Despite protocols to (PMTCT), rural South Africa (SA) maintains high MTCT. This study used implementation science methods to identify challenges and solutions to implementation and sustainability of prevent of mother to child transmission (PMTCT) programs in rural South Africa (SA). Implementation and sustainability of PMTCT, i.e., acceptability, fidelity, coverage, was assessed at 12 rural clinics. Provincial heads, district directors, clinic leaders, staff, and patients were assessed on barriers and opportunities to improve pre- and post-natal maternal and infant health care delivery and optimize PMTCT protocol uptake. A collaborative IS methods training program was developed and implemented for SA scientists and health care providers to enhance infrastructure and optimize implementation of HIV prevention programs. Quantitative and qualitative data (152 assessments, 12 focus groups) and 2 regional meetings and IS training were undertaken. Patient and clinic level issues, staff-patient relationships and staff training emerged as primary challenge themes. Practitioner attitudes and organizational barriers differed between clinic staff and predicted perceived PMTCT uptake and gaps in care ($F=8.19$, $p=.001$); difficulties arose integrating the protocol with traditional pregnancy and delivery practices. Staff solutions included transferable or electronic medical records, increased staff and refresher training, and improved patient scheduling, patient and staff satisfaction. Patient solutions included reduced stigma, increased knowledge and facilitated HIV disclosure. Clinic/system solutions included mobile clinics, team building, and communication training. Results are being disseminated in a report, regional meetings and manuscripts, mobilizing scientists and health care leaders to use IS to implement solutions. This study directors, staff and patients identified PMTCT challenges and solutions from. Input at all levels and local expertise to implement results may optimize outcomes. NIH/PEPFAR: R01HD078187S.

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Paper Session 18

3:51 PM-4:09 PM

PMTCT IMPLEMENTATION IN RURAL COMMUNITY HEALTH CENTRES IN MPUMALANGA PROVINCE, SOUTH AFRICA

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Gaps in the implementation and uptake of the protocol for the prevention of mother to child transmission (PMTCT) occur at all stages of the ante-, peri- and postnatal process in South Africa, and some rural areas have maintained higher levels of transmission. This manuscript explores organizational and individual characteristics affecting the capacity for service delivery and adoption of PMTCT, and assesses the implementation, acceptability, fidelity, coverage of PMTCT at 12 community health centres in rural Mpumalanga Province, South Africa. Community health centers ($n=12$ CHCs) in rural communities with high rates of vertical transmission ($\geq 13\%$) within the Gert Sibande and Nkangala Districts in Mpumalanga Province were included in the study. Clinic staff members surveyed ($N=103$) were 10 (deputy) operational managers/sisters in charge, 56 nurses, and 37 counsellors (lay counsellors, PMTCT counsellors, and Mother 2 Mother counsellors). There was a significant difference in attitudes and perceived organizational barriers by job title [$F(2, 100)=8.19$, $p<.001$], such that management were most enthusiastic about implementation and reported the fewest organizational barriers, nurses second, and counsellors the highest barriers. The most variable indicators were provision of ART during labor, HIV re-testing at 32 weeks pregnancy, maternal ART adherence, attendance at 4 antenatal clinic visits, delivery at the CHCs, and discussion of contraception and future pregnancies with healthcare providers. The most pervasive failures related to HIV status disclosure and related gaps. Results suggest that gaps in care are not necessarily linked to clinic staff attitudes or perceptions, and that ongoing efforts to implement district-level, data-driven quality improvement processes in rural communities are needed to improve the performance of the PMTCT programme. Although PMTCT data suggests its implementation varies between clinic sites, it is unclear what characteristics of organizations and/or individuals contribute to this variation. Strategies are needed to promote fidelity and coverage of PMTCT; if sustainability of the program is to be achieved in the rural Community Health Center system and its public health potential maximized.

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Paper Session 18

4:09 PM-4:27 PM

PALLIATIVE AND ADVANCED CARE PLANNING AMONG AFRICAN-AMERICAN HIV-POSITIVE INJECTION DRUG USERS: A MIXED METHODS EXPLORATION

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Background: Palliative care (PC) is designed to improve quality of life among individuals with chronic and/or terminal illnesses. Extant research suggests that PC and advanced care planning (ACP) are understudied among health disparate populations. Therefore, the objectives of the present research were to: (a) describe the palliative care and advanced care planning preferences of HIV-positive African-Americans with a history of substance use; and (b) identify possible needs for education and intervention for these individuals and their informal care networks. **Methods:** The present study utilized a concurrent, embedded mixed-methodological approach. Data were from baseline of the AFFIRM study. Participants were recruited from an HIV specialty clinic, and completed quantitative assessments. Next, semi-structure in-depth qualitative interviews were conducted with a sample from the larger study. Descriptive and bivariate analyses were conducted on survey data. Qualitative interviews were transcribed and coded using grounded theory constant comparison. **Results:** Participants were mostly African-American (98.4%), Male (53.9%), with public insurance (95.3%; $N=128$). Roughly half rated their pain as at least 6/10 in the past month (50.8%), and visited the ED due to pain (47.7%). Statistically significant associations were found between sex and physical functioning ($p<.05$); sex and type of relationship to designated health proxy ($p<.05$); education and knowledge of health care mandates ($p<.001$); engagement in healthcare decision making and preference for a long-term care facility at end of life ($p<.05$). Qualitative themes were: (1) spirituality; (2) lack of health care mandate knowledge; (3) avoidance of end of life discussions; (4) undermanaged pain reducing quality of life; (5) multidimensionality of care relationships; and (6) desire for long life and life-sustaining treatments at end of life ($N=22$). **Discussion:** Results suggest women have poorer physical health than men. Many PC and ACP topics were unheard of, despite recent healthcare access. Strong preferences for life-sustaining treatments were found, and are in-keeping with extant literature. Our findings highlight need for health education to document PC and ACP preferences, and learn communication skills to include caregivers in future decision making.

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Paper Session 18

4:27 PM-4:45 PM

DEPRESSIVE SYMPTOM TRAJECTORIES AMONG PEOPLE LIVING WITH AND WITHOUT HIV ACROSS 10-YEARS

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Background: As people living with HIV (PLWH) live longer, it is vital to understand patterns of depressive symptoms over time and identify risk factors for worse depressive mood. **Methods:** Subjects were 2,422 participants (789 HIV-, 1,660 HIV+) of the Multicenter AIDS Cohort Study and Women's Interagency HIV Study cardiovascular sub-studies. Most were under age 55-years (93%) and over 50% were Black. Clinically significant depressive mood was calculated according to the Center for Epidemiologic Studies Depression scores (CESD ≥ 16 vs 16). Group-based trajectory models were used to define 10-year depression patterns. Multinomial logistic regressions were used to determine the associations between independent variables and depressive mood. **Results:** Five patterns were identified: stable non-depressed (41%), decreasing moderate (19%), increasing moderate (14%), decreasing high (12%), and chronic high (13%). Controlling for a history of depressive mood, HIV+ status (OR 1.6, 95% CI 1.1, 2.3), poverty (OR 3.4, 95% CI 2.2, 5.2), cigarette use (OR 1.8, 95% CI 1.2, 2.5), hazardous drinking (OR 1.8, 95% CI 1.1, 3.0), and illicit drug use (OR 1.6, 95% CI 1.1, 2.2) were positively associated with the chronic high pattern, compared to the chronic low pattern. African American race (OR 1.8, 95% CI 1.1, 3.0) and poverty (OR 2.0, 95% CI 1.2, 3.3) were associated with greater odds for the chronic high pattern, compared to the decreasing high pattern. Women were less likely to be in the chronic high pattern when compared to the chronic low (OR 0.6, 95% CI 0.4, 0.9) and descending high (OR 0.2, 95% CI 0.1, 0.3) patterns. **Conclusions:** HIV status was an independent risk factor for chronic high depressive mood. Findings suggest that interventions to reduce depressive symptoms among PLWH should consider the intersection between HIV, socioeconomic status, and substance use.

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CITATION AWARD WINNER

Paper Session 19

3:15 PM–3:33 PM

HEALTHY FOOD ZONING AND THE NEIGHBORHOOD FOOD ENVIRONMENT: CAN PERMITTED-USE ZONING PROMOTE HEALTHIER COMMUNITIES?

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INTRODUCTION: Zoning laws have been promoted as a method to increase healthy food access by permitting development of healthy food outlets (HFOs) such as supermarkets and fruit/vegetable markets. This study was designed to determine if permitted-use zoning is associated with higher relative availability of healthy food outlets, as well as higher fruit and vegetable access, in a nationally representative sample. **METHODS:** Data on zoning laws and retail food stores were obtained from 470 communities in which public secondary school students reside in the United States. Our independent variable was the proportion of all permitted use zoning laws that were for HFOs, described as the modified retail food zoning index (MRFZI). The MRFZI was calculated as the total number of permitted use zoning laws for HFOs divided by the total number of permitted use zoning laws for all food outlets. Dependent variables were the modified retail food environment index (MRFEI) – i.e., the proportion of actual outlets that were HFOs – as well as mean counts of fresh fruits and fresh vegetables in all outlets. Using a general linear model (gamma distribution and log link), we controlled for urbanicity, sprawl, household income, Census region, and year, and tested for non-linear trends. **RESULTS:** When modeling MRFEI, both the linear and quadratic terms in the regression model were statistically significant ($p=.03$ and $.01$, respectively). The linear coefficient was positive, whereas the quadratic coefficient was negative; collectively, this suggested that permitted use zoning was positively associated with HFOs in the community, but the association was strongest in areas with less healthy food zoning (i.e., lower MRFZI) and weaker in areas with more healthy food zoning. Similar trends were observed when modeling fruit and vegetable access, though results in these models were non-significant. **DISCUSSION:** The non-linear trends suggest healthy food zoning has the strongest association with relative healthy food outlet availability in areas with the greatest need. Overall, however, the association is too modest to determine if zoning increases fruit or vegetable access.

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Paper Session 19

3:33 PM–3:51 PM

MARKETING FOOD ENVIRONMENT AND FOOD CONSUMPTION IN CHILDREN: MODERATION BY FOOD-RELATED PSYCHOSOCIAL FACTORS

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Background: Food marketing practices within food stores such as food displays and discounts are an important aspect of one's local food environment and a potential intervention target. This study sought to investigate psychosocial factors that could help identify children who are more likely to be influenced by these marketing strategies. **Methods:** Dietary, psychosocial and residential location obtained from 601 6–12 y.o. children recruited into a population-based study were used to test the moderating influence of food-related psychosocial factors (reward sensitivity (Behavioral Activation Scale), sensitivity to food cues (external eating), food rules (food control), and norms related to healthy eating) on the association between local food store promotion strategies and food consumption. A 24-hour recall was used to assess healthy and junk food consumption. Local food promotion strategies (food displays and discount frequency) were derived from a geocoded digital marketing database for two food categories: vegetables and soft drinks. Mixed models with spatial covariance and adjusted for child age, gender, and household income were used to test main and interactive effects of marketing indicators and psychosocial attributes on food consumption. **Results:** No evidence of main effect of promotions strategies on food consumption was found. The association between vegetable promotion strategies in stores and healthy food consumption was strongest for children with greater sensitivity to food cues. Associations between soft drink promotion strategies and junk food consumption were stronger for children with higher sensitivity to rewards and with fewer control food rules. Evidence for main effects, but no moderating effects, was found for healthy eating norms. **Conclusion:** Children may differ in their responsiveness to promotion strategies in food stores. Reducing promotion of unhealthy foods may be beneficial for children who are more sensitive to rewards and with fewer food rules, while promotion of healthy foods might be an appropriate strategy for children who are more responsive to food cues.

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Paper Session 19

3:51 PM–4:09 PM

EFFECT OF PROPORTIONAL PRICING VS. VALUE PRICING ON FOUNTAIN DRINK PURCHASES: RESULTS FROM A FIELD EXPERIMENT

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Reducing young adults' consumption of sugar-sweetened beverages is an important public health priority, yet finding an effective and acceptable policy intervention has proven challenging. One promising avenue for intervention is modifying the typical fountain beverage pricing structure so that larger beverages are not a better value. An alternative pricing approach, called proportional pricing, would set a consistent price per ounce of beverage. We conducted a field experiment implemented at a University campus cinema concession stand to test the effect of proportional pricing, randomly rotating four price scenarios over 10 weekends of film screenings. We manipulated two factors: the price structure (value pricing vs. proportional pricing) and the provision of information about price-per-ounce (per-ounce price labels vs. no labels). We hypothesized that people would purchase smaller drinks under proportional pricing and that adding the per-ounce label would enhance the price effects. The key outcome was number and size of fountain beverages purchased, collected from cash register data ($N=360$ beverages purchased total). Over the full study period, our hypotheses were not supported. There were no differences in size of beverages purchased across study conditions ($\chi^2=7.27$, $p=0.296$). However, during the first 4 weeks of the study, participants in the proportional pricing condition with the per-ounce labels purchased fewer large drinks than those in the proportional pricing condition without the label (58.8% vs. 24.4%; $\chi^2=9.6$, $p=0.002$). These findings were not maintained for the full study duration. Students purchasing drinks at a free on-campus cinema may not be as price sensitive as the general public at other types of retail settings. Proportional pricing, when combined with labels that notify consumers of the deviation from the expected value-pricing structure, may hold promise in other contexts and settings to shift consumers away from consuming large sugary drinks.

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Paper Session 19

4:09 PM–4:27 PM

CUSTOMER PURCHASES IN SMALL, NON-TRADITIONAL URBAN FOOD RETAILERS

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Objectives: Little is known about food purchasing patterns in non-traditional food retailers (e.g., gas-marts, pharmacies). Such stores are not mainstream grocers, but often sell a significant amount of food/beverages. This study describes the customer characteristics, shopping behaviors and nutrient composition of purchases at small, mostly non-traditional, urban food stores. **Methods:** Intercept surveys were conducted among 616 customers recruited at 106 randomly selected gas-marts, pharmacies, dollar stores and other small convenience/food stores in Minneapolis and St. Paul, MN. Descriptive analyses characterized customers and shopping behaviors and differences across store types. A nutrient analysis was conducted on all purchases using Nutrition Data System for Research (NDSR). **Results:** Of the 616 participant recruited, 252 were from gas-marts, 111 were from pharmacies, 57 were from dollar stores and 196 were from other small food stores. Many customers were frequent shoppers, with 73% shopping at least weekly at the store and 29% shopping there daily. Customers were racially/ethnically diverse (51% non-white/non-Hispanic) and were of mixed socio-economic status; 30% were overweight, and 33% were obese. Proximity (to home, work, or another destination) was the primary reason for choosing the store. Customers purchased an average of 2.6 items. Preliminary analyses indicate that each purchase contained an average of 1159 calories (median 529, 25%–75% interquartile range 252–1267) with an average of 13g saturated fat, 68g added sugars, and 1465mg sodium. Across all store types, an average purchase contained 2.0 servings of sugar sweetened beverages and 2.6 servings of refined grains, but only 0.4 cups of fruits/vegetables, and 1.0 serving of whole/partially whole grains. **Conclusions:** Non-traditional food retailers are a source of less healthy food purchases. These participants, who represent a cross-section of those who shop at small stores, shop frequently at these stores. Characterizing purchasing patterns is important for local policy and interventions aiming to address access to healthy food.

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Paper Session 19

4:27 PM-4:45 PM

MEASURES OF THE FOOD ENVIRONMENT: A SYSTEMATIC REVIEW

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Although many public health programs and research target improving the healthfulness of the food environment, measuring the food environment is complicated and imperfect. A review by McKinnon and colleagues¹ systematically gathered food environment measures developed from 1990-2007, reported on their psychometric properties, and made recommendations for future food environment research. In the present systematic review, we evaluate the field's progress by replicating McKinnon's review process and comparing the field from 2007-2015 with the findings from the earlier review.

We conducted a systematic review of studies measuring the food environment published in 2007-2015. These articles were identified through: PubMed, Embase, Web of Science, PsycINFO, and Global Health databases; the table of contents of relevant journals, and; the National Cancer Institute's Measures of the Food Environment website. This search yielded **11,928 citations. Using pre-defined inclusion criteria we retained and abstracted 432 studies to catalogue the food environment measures reported in the literature.**

There were 489 food environment measures included in the 432 abstracted articles. The most common instruments reported were checklists (n=136), followed by interviews/questionnaires (89), market baskets (23), and inventories (17). The most common methodology was geographic analysis (n=307), followed by menu analysis (16), nutrient analysis (14), and sales analysis (3). Of the 489 measures, only 25.8% included information on measurement reliability and 29.4% reported some aspect of the validity of the measure. Cross-sectional studies were most common (87.7%), followed by longitudinal (10.2%), and serial cross-sectional studies (2%). These findings are similar to what McKinnon found for measures developed from 1990-2007; the field was dominated by geographical analysis (49.6% of measures). For the 1990-2007 assessment the frequency of reliability and validity testing was low (13.9% and 5.8% of measures); we have seen some improvements in psychometric testing in this current review.

Research needs to further evaluate the validity and reliability of food environment measures. Furthermore, more longitudinal study designs should be conducted to establish construct validity in the relationship between the food environment and diet-related outcomes.

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Paper Session 20

3:15 PM-3:33 PM

CONVERSATION AS PEER SUPPORT FOR COMPLIANCE WITH HEALTH MESSAGE RECOMMENDATIONS OF ADEQUATE SLEEP IN COLLEGE

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Peer support is a key component of health and healthcare delivery. There is a growing evidence to suggest that conversation is one way peer support can support healthy behaviors, particularly in the context of health promotion programs. Research shows audience members who receive health information are likely to talk about the message with others. This study experimentally examines how different types of conversation might serve as constructive (or destructive) peer influences on college student intention to get sufficient sleep. **Methods:** In a randomized experiment, students (N = 301) watched a video about the consequences of not getting enough sleep, and a recommendation for adequate sleep in college (7 to 8 hours). After watching the video, participants were asked to talk to another college student in an online chat room. Unknown to participants, the conversation partner was a confederate trained to say positive things about sleep (positive peer support condition), negative things (negative peer support condition), or unrelated things (natural condition). After the conversation, participants responded to a survey assessing reactions to the chat, and beliefs and intentions to get adequate sleep. Survey responses were collected on scales from -3 to 3. **Results:** Responses suggest participants perceived conversations to be realistic (M=3, SD=1.3). Chat transcripts were analyzed using linguistic inquiry word count (LIWC) software that provides counts of various aspects, like emotional words. Results of LIWC coding showed confederates and participants were more positive in the positive condition (v. natural; p (B=23, p < .05). The strongest predictor of intention to get adequate sleep was the perception that other students were positively disposed to the message and topic of sleep in the conversation (B=23, p < .01). **Conclusions:** These results suggest conversation may serve as a constructive source of peer support, reaffirming intentions to comply with the recommendation of adequate sleep in the video message. As messages remain a compelling avenue for health behavior change, intervention designers would be well-served to understand how audience members engage with others about health information to understand the role of peer support in health behavior.

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Paper Session 20

3:33 PM-3:51 PM

PREVENTING WEIGHT GAIN IMPROVES SLEEP QUALITY AMONG BLACK WOMEN: RESULTS FROM A RCT

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Background: Black women have the highest rates of obesity. Concurrent with a rise in obesity has been a rise in sleep curtailment. Given that poor sleep can lead to a host of health consequences, we sought to examine whether an intervention aimed at preventing weight gain among low-income Black women improved sleep outcomes. **Methods:** We conducted a randomized trial comparing a 12-month weight gain prevention intervention (The Shape Program) to usual care in community health centers. The intervention included tailored lifestyle behavior change goals, self-monitoring through interactive voice response technology and monthly counseling calls with a registered dietitian in the primary care setting. The intervention did not emphasize sleep. We analyzed sleep outcomes using the Medical Outcomes Study (MOS) Sleep Scale at baseline and 12 months. This scale examines quantity of sleep and 6 dimensions of sleep quality: sleep disturbance, sleep adequacy, daytime somnolence, snoring, sleep problems, and shortness of breath. Twelve-month change in scores for each of these dimensions and average sleep hours were calculated across study arms using mixed models. **Results:** Participants (n=184) had a mean age of 35.4, mean BMI of 30.2, and 74% had an annual household income under \$30,000. At baseline, 75% of women did not meet the recommendation of 8 hours of sleep per night; average hours of sleep was 6.4 (SD: 1.5), with no differences across study groups. There were no significant predictors of meeting the sleep recommendation. Controlling for weight change and sleep medication usage at 12 months, the intervention group reported greater improvements in sleep disturbance [mean difference (95% CI): -8.35 (-16.24, -0.45); p < .05] and in sleep problems: sleep problems index 1 - [mean difference (95% CI): -8.35 (-16.24, -0.45); p < .05]; sleep problems index 2 - [mean difference (95% CI): -8.35 (-16.24, -0.45); p < .05] as compared to usual care. There were no differences between groups over time in other sleep indicators or in number of hours of sleep. **Conclusions:** A weight gain prevention intervention improved sleep outcomes among socioeconomically disadvantaged Black women, independent of weight change and sleep medication usage. This intervention approach may afford additional clinical benefit to this medically vulnerable population, beyond weight gain prevention.

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Paper Session 20

3:51 PM-4:09 PM

DIFFERENCES IN CHRONOTYPE IN BLACK AND WHITE ADULTS

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Widening racial differences in sleep duration have been reported, but racial differences in other aspects of sleep, such as chronotype (sleep-wake timing) are relatively unexplored. A small number of studies have shown that Blacks are biologically predisposed to earlier chronotypes and that earlier chronotypes are more prevalent among Blacks than Whites. By contrast, behavioral evidence suggests that Blacks are more likely to have later sleep-wake times that can be related to lifestyle factors such as shift work and exposure to urban stimuli that is more common in Blacks than Whites. Thus, it is not known if the observed racial differences in chronotype are attributable to biological or lifestyle factors, or both. To address this gap, a Chi-square analyses using nearest neighbor 1:1 propensity score matching (PSM) in a sample of 5,318 adults (2,659 Black adults, 2,659 White adults) from the UK Biobank study was performed to estimate the effects of race on chronotype after matching for factors known to influence chronotype. Black and White samples were well matched on age, sex, education, employment (including shift work and night shift work), tobacco use, caffeine use, urban vs. rural living conditions, season of birth, season of assessment, sleep duration, and mental health status (major depression, bipolar, neither). All ASMD estimates were below 0.05. Racial differences in chronotype were statistically significant, with 36% and 29% of Blacks and Whites being early; 5% and 9% of Blacks and Whites being late, respectively (Chi-square p < 0.0001). These results suggest that racial variations in self-reported chronotype are not related to a wide range of demographic, behavioral, environmental, or socio-occupational factors. Modifying environmental stimuli, socio-occupational demands, and physical activity regimes to align with one's unique chronotype (sleep-wake times) may be important for achieving optimal health and well-being.

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Paper Session 20

4:09 PM-4:27 PM

“I DON’T SLEEP...I’VE BEEN LIKE THIS FOR OVER 30 YEARS”: A QUALITATIVE APPROACH TO UNDERSTANDING SLEEP DISTURBANCE AMONG BLACKS

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Background: There is increasing evidence of insufficient sleep and poor sleep quality among blacks. Evidence is also emerging that healthful sleep may be protective against obesity and cardiovascular disease. Therefore, behavioral interventions that promote healthful sleep in populations with higher incidence of disrupted or poor sleep are crucial. This study used focus groups to understand sleep behavior patterns, and beliefs about sleep among blacks. **Methods:** Five focus groups were conducted (16 female and 8 male) and lasted on average 50 minutes and followed a semi-structured interview guide. The interview guide was designed to facilitate discussion on beliefs and attitudes towards sleep, barriers limiting adoption of healthful sleep practices, consequences of what happens when you do not get enough sleep, and good sleep strategies. Focus groups were transcribed verbatim. Two volunteers assisted with the analysis. Data analysis began immediately upon completion of focus groups to ensure accurate data capture. Transcripts were reviewed line-by-line and assigned codes or labels. Similar codes were grouped into higher order concepts and then categories. Similar categories were clustered to form overarching themes. **Results:** Participants commonly reported sleep disturbance both acute and chronic in nature. Stress and poor physical, emotional, and mental health functioning are barriers limiting adoption of healthful sleep. The most commonly reported consequences from poor sleep were cognitive impairment (e.g., “I forget a lot”) and daytime sleepiness (e.g., “I’ll get on [the train] to go to Fordham, Bx and end up in Coney Island, Bklyn”). Participants reported relying on religious activities, including reading the bible and listening to gospel music to aid in sleep. Other sleep strategies included use of sleep aids and meditation (e.g., “The meditation is really—I do it every night before I go to sleep, and it works”). **Conclusion:** These findings suggest a myriad of factors that contribute to sleep disturbance among blacks. There also are salient beliefs and strategies this population holds and practices when it comes to sleep. Researchers could use this information to develop culturally tailored behavioral interventions that promote sleep health among minority populations.

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Paper Session 20

4:27 PM-4:45 PM

BARRIERS AND FACILITATORS TO DIAGNOSIS OF OBSTRUCTIVE SLEEP APNEA AMONG BLACKS

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Compared to whites, blacks are disproportionately burdened by obstructive sleep apnea (OSA) and are less likely to seek treatment. Although disparities in OSA care are well-documented, few efforts have been made to understand the psychological factors that contribute to these disparities. This study drew on qualitative methods to understand barriers and enablers to OSA diagnosis (via an overnight sleep recording) among Blacks. **Methods:** Five focus groups were conducted involving 5 male and 12 female black adult participants. A semi-structured guide was used to facilitate discussion about sleep, sleep problems, sleep apnea, and having an overnight sleep recording. Focus groups were transcribed verbatim and analyzed using the Constant Comparative qualitative method where the analyst read transcripts, then engaged in focused and analytical coding procedures to synthesize findings and identify common themes and categories across focus group data. **Results:** Participants reported sleep problems like excessive daytime sleepiness. Responses from participants indicated awareness of sleep apnea (e.g., “breathing stops” or the “throat close up.”) Several enablers of getting an overnight sleep recording were identified, 1) encouragement from family members, 2) another health event triggering diagnosis; and 3) experiences where participants referenced religion in their decision to seek medical treatment for their sleep issues. Factors that hindered diagnosis included, 1) fears associated with the overnight sleep test (e.g., “I hate sleeping outside my bed”); 2) fear of the treatment and potential diagnosis of sleep apnea for the potential disruptions the disorder may cause the family unit or bed partner; and 3) perceptions reported by a few participants that snoring is shameful. **Conclusion:** This study identified barriers and enablers of the critical diagnosis phase antecedent to treatment for OSA. Most compelling of the barriers were beliefs that snoring is shameful. Snoring is among the first set of questions sleep health professionals ask before recommending a sleep test. Perceptions that snoring is shameful may represent an important impediment preventing timely diagnosis of OSA. Identifying enablers and barriers to overnight sleep test illuminate potential directions for behavioral medicine to encourage sleep recording and sleep health among minority populations.

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Paper Session 21

3:15 PM-3:33 PM

IMPACT OF SCHOOL-ENTRY REQUIREMENTS ON ADOLESCENT VACCINATION COVERAGE, TIMELINESS, AND SEASONAL VARIATION

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Background. Suboptimal human papillomavirus (HPV) vaccination coverage is an ongoing crisis in cancer prevention. We assessed the impact of states’ school-entry requirements for adolescent vaccination, focusing on HPV vaccination. **Methods.** We categorized states according to their 2007-2012 school-entry requirements for adolescent vaccination (tetanus, diphtheria, and pertussis (Tdap) booster; meningococcal; and HPV). The National Immunization Survey-Teen (2008-2012) provided physician-verified data for 99,921 adolescents that we used to calculate vaccination coverage (percent of 13- to 17-year-olds vaccinated), timeliness (percent of adolescents vaccinated by age 13), and seasonality (percent of doses administered in June, July, and August). We also assessed same-day (“concomitant”) vaccination. HPV vaccination outcomes were among female adolescents only. We used longitudinal, weighted multivariable regressions to examine the impacts of vaccination requirements on these outcomes. **Results.** Many states adopted Tdap booster (7-42 states) or meningococcal vaccination requirements (0-14 states), but very few adopted HPV vaccination requirements (0-2 states). Tdap and meningococcal vaccination requirements increased coverage for targeted vaccines (22-24% absolute higher coverage in states with versus without requirements), but HPV vaccination requirements did not (<1%). Tdap and meningococcal vaccination requirements also had spillover effects for HPV vaccines (4-8%). Tdap and meningococcal vaccination requirements were associated with increases in coverage, timeliness, and seasonality (all $p < .05$) for all targeted, spillover, and concomitant vaccinations. **Conclusions.** School-entry requirements for HPV vaccination are ineffective, but requirements for meningococcal vaccination could substantially improve HPV vaccination coverage. Policymakers and clinicians should anticipate and capitalize on changes in adolescent vaccination patterns that may arise after states adopt vaccination requirements.

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Paper Session 21

3:33 PM-3:51 PM

DISPARITIES IN KNOWLEDGE AND AWARENESS OF HPV AND HPV VACCINE DETECTED AMONG DIFFERENT RACE GROUPS AND GENDER IN A NATIONAL SAMPLE

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Background: Nearly 80 million people in the U.S. are currently infected with at least one strain of human papillomavirus (HPV), which is associated with 70% of cervical cancers. Almost 10 years have passed since the approval of the first of three HPV vaccines for boys and girls; yet, disparities in knowledge and awareness about HPV and the HPV vaccine persist, and vaccination rates are suboptimal. The goal of this study was to assess racial/ethnic and gender disparities in the knowledge and awareness of HPV and the HPV vaccine among US adults. **Methods:** Cross-sectional data were obtained from the Health Information National Trends Survey Cycles 3 and 4 (HINTS; N=6,862). Descriptive statistics and multivariable logistic regression were used to assess racial/ethnic and gender disparities in HPV knowledge and HPV vaccination awareness. **Results:** Sixty-six percent of Americans had heard of HPV and the HPV vaccine; and 70% knew that HPV causes cervical cancer. However, we found gender and racial/ethnic disparities in knowledge and awareness of HPV and the HPV vaccine. In multivariate analyses, females were 3.28 times (95% CI: 2.62 – 4.09) more likely to have heard of HPV, and 3.86 times (95% CI: 3.11 – 4.79) more likely to have heard of the HPV vaccine compared to males. In addition, females were more likely than males to know that HPV causes cervical cancer (OR = 1.49, 95% CI: 1.13 – 1.96). Non-Hispanic Blacks were 33% (95% CI: 0.47 – 0.96) and 44% (95% CI: 0.39 – 0.81) less likely than non-Hispanic Whites to have heard of HPV and the HPV vaccine, respectively. Hispanics were 53% (95% CI: 0.34 – 0.64) less likely than non-Hispanic Whites to have heard of the HPV vaccine. Similarly, Non-Hispanic Blacks were 48% (95% CI: 0.35 – 0.76) less likely to know that HPV causes cervical cancer compared to non-Hispanic Whites. **Conclusions:** Non-Hispanic Blacks and males bear the greatest burden associated with inadequate knowledge and awareness of HPV and the HPV vaccine. Thus, future interventions targeting males and minority populations, for whom knowledge gaps currently exist, are needed. There is also a need to improve physician-patient communications to maximize physician discussion of the HPV vaccine with patients and parents of children eligible for the HPV vaccine.

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Paper Session 21

3:51 PM-4:09 PM

HPV IS NOT JUST A WOMAN'S BUSINESS! EXPLORING INADEQUATE HPV AND HPV VACCINE KNOWLEDGE AMONG MEN

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Background: The human papillomavirus (HPV) vaccine was first approved for use in females in 2006, and in 2009 for both males and females. However, knowledge about HPV and the HPV vaccine as well as vaccine uptake has been suboptimal among males. In addition, the burden of HPV-associated cancers, especially head and neck, anal, and penile cancers, is very high among males in the United States. The aim of this study was to quantify gaps in HPV and HPV vaccine knowledge among adult males in the United States. **Methods:** Data from the Health Information National Trends Survey 4 Cycle 4 (November 2014) were analyzed for 3,677 survey participants aged 18 years and older. Descriptive statistics and multivariable logistic regression were used to assess gender disparities in HPV and HPV vaccine knowledge. **Results:** Sixty-four percent of respondents (56% of men and 72% of women) had heard of HPV and the HPV vaccine. In multivariate analyses, after adjusting for known covariates, males were 67% (95% CI: 0.25 – 0.45) less likely to have heard of HPV and 76% (95% CI: 0.18 – 0.32) less likely to have heard of the HPV vaccine compared to females. Seventy percent (73% of men and 67% of women) knew that HPV is a sexually transmitted disease (STD) and 78% (76% of men and 79% of women) knew HPV causes cervical cancer. Yet, only 29% (29% for both men and women) knew it causes penile cancer, 26% (27% of men and 25% of women) knew it causes anal cancer, and 30% (31% of men and 29% of women) knew it causes oral cancer. Among those who had heard of HPV, there was no statistical difference between males and females with regard to the knowledge that HPV causes cervical, penile, anal and oral cancer. However, males were less likely than females to know that HPV causes cervical cancer while females were less likely to know that HPV causes oral cancer. **Conclusion:** Two-thirds of respondents were aware of HPV and HPV vaccine, but a clear gender gap still exists in HPV and HPV vaccine knowledge. This underscores the need for more tailored interventions specifically targeting males to increase HPV knowledge and promote HPV vaccine uptake. It also highlights the need for more deliberate efforts on the part of physicians to discuss the HPV vaccine with eligible patients and parents.

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Paper Session 21

4:09 PM-4:27 PM

AN EXAMINATION OF HPV VACCINATION AND CERVICAL CANCER SCREENING USING THE NATIONAL HEALTH INTERVIEW SURVEY

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Background: There exist concerns that HPV vaccination could result in women perceiving they are protected from all cervical cancers, leading to decreased screening rates. This study examines the relationship between cervical cancer screening rates and HPV vaccination in a nationally representative sample of women in the United States. **Methods:** We analyzed data from the 2013 National Health Interview Survey (NHIS) for women between the ages of 21 and 33 (i.e., born between 1980 and 1992). We excluded those women who reported a hysterectomy, or history of cervical cancer, as well as those who had received the vaccine less than 12 months prior to the survey. Logistic regression was used to assess the relationship between having one or more HPV vaccination and the odds of having had a Pap test in the past 12 months. **Results:** 3,876 women were included in the study. Mean age was 27 years old. Most (65%) women were white and 18% were black. Almost half (47%) indicated they were in a monogamous relationship and 53% indicated they were single. One-fifth (22%) of the women indicated they had received at least one HPV vaccine and 63% had a Pap test within the past 12 months. Logistic regression results showed that women who had been vaccinated had greater odds of having a Pap test in the past 12 months as compared to women who had not been vaccinated (OR=1.7; 95% CI=1.5-2.0; p < 0.001). This relationship was still significant in an adjusted multivariable logistic regression (AOR=2.0; 95% CI=1.7-2.4; p < 0.001) while controlling for independently statistically significant covariates age, race, and marital status. **Conclusions:** Analysis of a nationally representative survey shows that women who have been vaccinated for HPV are more likely, not less likely, to have been screened for cervical cancer in the past 12 months. These results may be explained by the fact that both vaccination and screening are pro-health behaviors and they should alleviate concerns among healthcare providers regarding a decrease in cervical cancer screening due to HPV vaccination.

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Paper Session 21

4:27 PM-4:45 PM

BARRIERS AND FACILITATORS TO HPV VACCINATION AMONG YOUNG MEN WHO HAVE SEX WITH MEN

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Background: Human papillomavirus (HPV) is a common sexually transmitted infection that causes anal, penile, and oropharyngeal cancers in men. Men who have sex with men (MSM) are at particularly high risk for HPV infection and HPV-related disease. HPV vaccination is currently recommended for all MSM through age 26 years, yet little is known about HPV vaccine uptake in this population. This study investigated predictors of HPV vaccine uptake and barriers and facilitators to HPV vaccination that may be unique to young MSM. **Methods:** Men aged 18–26 years (N=336) were recruited via advertisements placed on a geospatial smartphone dating application designed for MSM. Participants completed an online survey assessing demographic characteristics, sexual behavior, health history, HPV vaccination, and HPV vaccine-related beliefs. Correlates of vaccine uptake and provider recommendation for HPV vaccine were identified using logistic regression. **Results:** In total, 21% of participants had received ≥ 1 dose of HPV vaccine. Most men who had received a provider recommendation for HPV vaccine had been vaccinated and provider recommendation was the strongest predictor of uptake. Additional independent predictors of uptake included age, race/ethnicity, HIV status, HPV vaccine attitudes, and perceived norms. Predictors of provider recommendation included sexual identity, race/ethnicity, condomless anal sex, and HIV status. Barriers and facilitators to HPV vaccination among unvaccinated men were also identified. **Conclusions:** Findings highlight potential disparities in HPV vaccine uptake among young MSM, as well as disparities in provider recommendation practices for HPV vaccination. Results speak to the importance of integrating health care providers into future HPV vaccination interventions with young MSM. Interventions should aim to clarify misconceptions about HPV, modify psychosocial beliefs associated with HPV vaccination, and address barriers and facilitators to HPV vaccination that are specific to young MSM.

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Paper Session 22

3:15 PM-3:33 PM

PSYCHIATRIC COMORBIDITY AND EMOTIONAL EATING IN VETERANS SEEKING WEIGHT MANAGEMENT TREATMENT

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Disproportionately high prevalence rates of overweight/obesity and psychiatric comorbidities have been reported in veterans compared to the US general population. The purpose of the present study was to investigate the relationships between the highest frequency psychiatric comorbidities observed among veterans, and emotional eating, in a sample of patients who are overweight/obese.

Participants were consecutively evaluated overweight/obese veterans who attended an orientation session at VA Connecticut Healthcare System for the national weight management program, MOVE!. Seventy-seven adult patients (mean age 61.3 years, mean BMI 38.5, 88% male, 75% Caucasian) completed surveys including psychiatric screening questionnaires (i.e., PHQ-2, PC-PTSD, AUDIT-C) and the Yale Emotional Overeating Questionnaire (overeating in response to anxiety, sadness, loneliness, tiredness, anger, happiness, boredom, guilt, and physical pain). Participants were categorized as positive or negative for depression, PTSD and alcohol misuse based on screening criteria. Comparisons in emotional eating were made between those who screened positive and negative for depression and/or alcohol misuse using ANOVA. Due to a significant relationship between PTSD and gender, ANCOVA was conducted to control for gender for analyses of PTSD and emotional eating. Pearson correlations were conducted to examine the relationship between emotional overeating and BMI.

The percentages of veterans who screened positive for symptoms of depression, PTSD and alcohol misuse were 36%, 26% and 13%, respectively. Participants screening positive for depression and/or PTSD reported significantly more emotional overeating in response to every emotion (p 's < .05). There were no differences in emotional overeating based on alcohol misuse. BMI was significantly correlated only with overeating in response to pain ($r = .26$, $p < .05$). Findings suggest that individuals with depression and/or PTSD are more likely to engage in emotional overeating, but those who misuse alcohol may prefer to drink rather than eat in response to emotions. Further, eating in response to physical pain was associated with higher weight. Collectively, findings have implications for treating overweight/obese patients with depression, PTSD and pain.

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Paper Session 22

3:33 PM-3:51 PM

RAPID ACCESS TO QUIT SMOKING: A PRIMARY CARE AND SMOKING CESSATION CLINIC COLLABORATION IN A VETERANS AFFAIRS HOSPITAL

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Tobacco Use Disorder is associated with high rates of morbidity that are treated in primary care clinics, as well as mortality. Challenges exist to efficiently and effectively provide smoking cessation treatment and referral in primary care clinics. A novel collaboration between the Smoking Cessation Clinic (SCC) and Primary Care Clinic (PCC) at a VA Medical Center was developed to streamline tobacco use screening and intervention in the PCC, and rapidly facilitate further treatment in the SCC. This initiative, Rapid Access to Quit Smoking, educated primary care providers in the delivery of brief, evidenced-based smoking cessation treatments. For PCC providers, emphasis included tobacco medications, brief behavioral intervention, and referral to the SCC. Educational pamphlets were developed that guided the primary care provider's intervention, and delivered educational information to patients. Medical support personnel contacted the SCC to facilitate immediate smoking cessation treatment or arrange for follow-up. Analysis included referral rates to the SCC, SCC efficiency, patient engagement in treatment, and prescription rates written by PCC providers three months prior to and three months post initiation of the program. Rapid Access to Quit Smoking was associated with an increase in PCC referrals to the SCC from 47.7% to 80.4% ($t = -5.13$, $p < .001$). Tobacco treatment prescriptions written by PCC providers significantly increased from 36.6% to 72.1% ($t = -3.56$, $p < .001$). These findings suggest that PCC providers were more likely to discuss smoking cessation with their patients and refer to more intensive treatment in the SCC. In addition, the study suggests that PCC providers took greater responsibility for treating Tobacco Use Disorder through medication management. As a result of primary care management and referral, the SCC was able to more efficiently evaluate and engage more patients in further behavioral smoking cessation treatment. While we were unable to monitor PCC adherence to the initiative, the large impact on PCC behavior and ultimate treatment engagement suggests this approach could be used effectively in helping primary care providers with the critical public health problem of smoking.

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Paper Session 22

3:51 PM-4:09 PM

SUPPORTING THE CONTRACEPTIVE AND MENSTRUAL NEEDS OF OUR FEMALE TROOPS: UPDATED SYSTEMATIC REVIEW AND IMPLICATIONS

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With women filling an increasing number of roles and responsibilities in the US armed forces, reproductive needs and menstrual practices are becoming increasingly important issues for military operations and troop readiness. For example, high rates of unplanned pregnancy and the realities of menstrual periods must be addressed quickly and efficiently, along with a host of other personal healthcare and mission demands. A previous systematic review (Holt et al, 2011) found that empirical studies have identified consistently high rates of unplanned pregnancy and inconsistent knowledge and access to effective contraceptive methods among military personnel, and limitations in knowledge, counseling, and prescribing practices among military medical providers. Studies also revealed an unmet desire for menstrual suppression, particularly in deployment settings. We conducted an expanded systematic review in PubMed and CINAHL using terms capturing female military personnel, contraception, and menstrual suppression, January 1990-August 2015. We identified 798 unique hits of which we reviewed 74 relevant citations pertaining to these areas of interest in the US military. Along with the studies included in Holt et al (2011), we identified additional studies confirming these findings and reporting some success of reproductive health interventions targeting military personnel directly. However, despite numerous calls for improvements in provider knowledge and provider-patient interactions, our expanded review demonstrates that there remains a lack of research on provider-based interventions to improve contraceptive and menstrual suppression counseling in the US armed forces. Research is critically needed to evaluate the quality of contraceptive and menstrual suppression counseling among military providers, to identify intervention targets, and to create and evaluate programs that reduce the number of unplanned pregnancies and improve the reproductive health of our troops. We propose research priorities given advances in contraceptive science and recent/pending changes in military policy with respect to expansion of female military roles.

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Paper Session 22

4:09 PM-4:27 PM

CHILDHOOD MALTREATMENT EXPERIENCES AMONG US ARMY RESERVE/ NATIONAL GUARD SOLDIERS AND THEIR PARTNERS

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Background Exposure to childhood maltreatment is associated with greater risk for poorer health outcomes. However, it is unclear if the historical prevalence of childhood maltreatment differs between military and civilian populations. The purpose of this study is to better understand childhood maltreatment experiences in a sample of USAR/ARNG Soldiers. **Methods** Data are from Operation: SAFETY (Soldiers and Families Excelling Through the Years), an ongoing, longitudinal study of USAR/ARNG Soldiers and their partners. Childhood maltreatment was measured using the Comprehensive Child Maltreatment Scale, which examines physical abuse, psychological abuse, neglect experiences, and witnessing maltreatment. Differences in childhood maltreatment by military status (military or civilian (a non-military partner)) were determined using T-tests, and both male and female partners were examined. **Results** Military women reported greater total childhood maltreatment than civilian women (13.8 [95% CI: 11.1 – 16.6] v. 10.6 [95% CI: 9.1 – 12.1], $p < 0.05$). Specifically, female Soldiers reported greater exposure to physical abuse (3.1 [95% CI: 2.2 – 4.0] v. 2.0 [95% CI: 1.6 – 2.4], $p < 0.05$) than female civilians. Further, there were trend level differences between military and civilian females for psychological abuse (7.3 [95% CI: 6.1 – 8.6] v. 6.0 [95% CI: 5.3 – 6.8], $p < 0.07$); and witnessing family violence (1.7 [95% CI: 1.2 – 2.2] v. 1.2 [95% CI: 0.98 – 1.4], $p < 0.08$). Among males, there were no significant differences in childhood maltreatment on any subscale between Soldiers and civilians. **Conclusion** While there were no differences between military and civilian men, female USAR/ARNG Soldiers reported greater childhood maltreatment (physical abuse, psychological abuse, and witnessing maltreatment) than civilian women. Future work should consider the interaction of previous child maltreatment and military combat exposure in female Soldiers as these individuals may be at even greater risk for poorer mental and physical health outcomes.

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Paper Session 22

4:27 PM-4:45 PM

MOTIVATION TYPE AND PHYSICAL ACTIVITY INTENSITY AMONG VETERANS

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Physical activity (PA) and dietary behavior changes are important for weight loss, but motivating individuals to engage in programs that help support changing these behaviors is a challenge. Motivation is often conceptualized as autonomous (e.g., motivated because of internal beliefs that it is important) or controlled (e.g., motivated by being told what to do). A growing body of literature indicates that autonomous motivation is associated with intention and actual engagement in PA. However, it is not clear the extent to which this relationship exists for Veterans because of their military experience which emphasizes following orders. Eligible Veterans were randomly selected into one of three study arms: in-person VA diabetes prevention program (VA DPP), online VA DPP, and a usual care weight management program. All three arms were designed to help patients lose weight through goal setting and self-monitoring their diet and PA behavior. This sample includes patients who completed questionnaires at both baseline and 12-months. Motivation was measured by a modified Treatment Self-Regulation Questionnaire (TSRQ). Over the 12-month intervention period, mean scores for controlled motivation increased (4.08 to 5.23) while scores for autonomous motivation decreased (6.36 to 4.83). Over time, PA intensity seemed to increase since days of vigorous PA increased (1.42 to 3.30) while days of moderate PA slightly decreased (3.41 to 2.63). Controlling for demographic characteristics, controlled motivation was associated with a decrease in moderately active days over time (-0.323 , $p=0.042$). Autonomous motivation, however, was associated with an increase in the number of vigorously active days (0.725, $p=0.01$). These findings indicate that autonomous motivation can support the increase of vigorous PA among Veterans. Additionally, interventions may influence both autonomous and controlled motivation over time.

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Paper Session 23

3:15 PM-3:33 PM

PREDICTING RESPONSE TO INTERVENTIONS DESIGNED TO SUSTAIN TOBACCO ABSTINENCE POSTPARTUM

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Most women who quit smoking during pregnancy will relapse postpartum. Interventions designed to increase rates of sustained postpartum tobacco abstinence can benefit from understanding prenatal characteristics associated with treatment efficacy. Thus, in a trial designed to evaluate the relative efficacy of two interventions to prevent postpartum relapse, we sought to examine the relevance of prenatal mood, perceived stress and smoking-specific weight concerns to intervention response. Pregnant women ($N = 300$) who had quit smoking received postpartum-adapted, behavioral smoking relapse prevention intervention and were randomly assigned to intervention with specialized focus on postpartum mood, weight and stress (STARTS) or a time and attention-controlled comparison (SUPPORT). Intervention began at the end of pregnancy, prior to delivery, and continued through 24 weeks postpartum. Abstinence was confirmed biochemically and mood, stress and smoking-related weight concerns were assessed at the end of pregnancy, and 24- and 52-weeks postpartum.

Rates of sustained abstinence were 34% and 24% at 24- and 52-weeks postpartum, and did not differ between intervention conditions. However, baseline depressive symptoms and perceived stress interacted with treatment group to significantly predict smoking status at 24- and 52-weeks postpartum ($ps < 0.01$). The interaction between depressive symptoms and treatment group also remained significant after adjusting for relevant covariates at both 24- ($\chi^2(2) = 2.61$, $p = 0.02$) and 52-weeks ($\chi^2(2) = 2.55$, $p = 0.02$) postpartum. Specifically, women with low depressive symptoms at the end of pregnancy were more likely to remain abstinent through 52-weeks postpartum in the SUPPORT intervention than in STARTS (37% vs 19%, $p = 0.008$).

Postpartum-adapted relapse prevention interventions are associated with high rates of sustained biochemically-confirmed tobacco abstinence through one-year postpartum. Interestingly, depressive symptoms at the end of pregnancy were associated with differential treatment efficacy, which suggests that prenatal depressive symptoms may be useful in helping to select an approach to postpartum relapse intervention for those with minimal symptoms.

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Paper Session 23

3:33 PM-3:51 PM

BREASTFEEDING INTENTIONS IN LOW-INCOME MOTHERS: CONFIDENCE AND KNOWLEDGE AS POTENTIAL TARGETS OF INTERVENTION

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Background: Exclusive breastfeeding to 6 months is recommended to promote healthy infant growth and development. Low-income women are both less likely to initiate and to continue breastfeeding to 6 months than their higher-income peers. This study explored low-income mothers' breastfeeding intentions and factors associated with these intentions as potential targets for perinatal interventions. **Methods:** 49 women (23.4±5.8 yrs; 59.2% Latina; 26.5% African American; 40.8% < \$15K/year) participating in a home visitation program for at-risk families completed a survey prenatally or within 1 month of delivery. Women reported how they planned to feed their baby (breastfeed only (BF, 47.1%), formula feed only (FF, 13.7%), or both formula and breastfeed (FF/BF, 39.2%)), length of intended breastfeeding, confidence to breastfeed the desired length of time, and beliefs about breastfeeding health benefits. **Results:** BF mothers planned to breastfeed longer than FF/BF mothers (10.3±6.0 vs. 6.6±6.2 m, $p=.08$). 81.0% of BF mothers intended to breastfeed for 6 or more months compared to 55.3% of FF/BF mothers ($p=.08$) and were more likely to intend to breastfeed after returning to work (59.1% vs. 35.0%, $p=.04$). BF mothers tended to be more likely than other mothers to agree that babies should be breastfed exclusively for 6 months ($p=.10$) and were less likely to believe that breastfeeding and formula feeding were equally good ways to feed a baby ($p=.002$). 65.2% of BF mothers were very confident in their ability to breastfeed for the desired length of time vs. 29.4% of FF/BF mothers ($p=.15$). Mothers generally agreed about the health benefits of breastfeeding although BF mothers were more likely to endorse that breastfed infants will experience less diarrhea ($p=.02$). **Conclusions:** Mothers who intend to breastfeed report a longer duration of planned breastfeeding and more confidence in their ability to breastfeed than mothers who plan to formula and breast feed. Maternal knowledge about breastfeeding health benefits did not differ based on feeding intention. Increasing mothers' self-efficacy may be critical to improving breastfeeding rates in low-income populations.

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CITATION AWARD WINNER Paper Session 23

3:51 PM-4:09 PM

INTERVENING DURING AND AFTER PREGNANCY TO PREVENT WEIGHT RETENTION AMONG AFRICAN AMERICAN WOMEN

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Objective: Efforts to prevent postpartum weight retention in extant clinical trials of African American women have proven exceedingly challenging. This pilot randomized trial examined whether a technology-based, behavioral intervention implemented between 12 weeks' gestation and 6 months postpartum could decrease the proportion of obese African American women with substantial weight retention after childbirth.

Methods: Participants were 66 socioeconomically disadvantaged African American pregnant women (12.5 ± 3.7 weeks' gestation; 36% overweight, 64% obese) randomly assigned to a technology-based, behavioral intervention or usual care group. The intervention, implemented from pregnancy to 6 months postpartum, promoted weight control through: (1) empirically supported behavior change goals; (2) interactive self-monitoring text messages; (3) biweekly to monthly health coach calls; and (4) skills training and support through Facebook. The primary outcome, substantial weight retention, was defined as 5 pounds or more above early pregnancy weight at 6 months postpartum. We report data on 53 mothers (26 usual care, 27 intervention) who completed the study to date. **Results:** The intervention significantly reduced the proportion of women with substantial weight retention compared to usual care (33% vs. 62%, $p = 0.04$). The magnitude of postpartum weight retained at 6 months was also reduced among intervention participants (3.6 vs. 7.3 pounds). Stratification by weight status yielded similar results. The majority of intervention participants (87%) reported that the skills they learned in the program were "extremely helpful", and nearly all (91%) found the text messages "extremely useful".

Conclusions: Our findings show preliminary efficacy and acceptability of a technology-based, behavioral intervention from pregnancy to 6 months postpartum for reducing postpartum weight retention among African American women.

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Paper Session 23

4:09 PM-4:27 PM

THE ROLE OF EMPLOYMENT STATUS ON DEPRESSIVE SYMPTOMS AMONG WOMEN AT RISK FOR POSTPARTUM DEPRESSION

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Objective: Approximately, 13-19% of new mothers report depression during the postpartum phase. Research indicates that working outside of the home may be a protective factor for postpartum depression; however, important potential confounding variables have not been controlled for in previous studies. The purpose of this study was to examine the relationship between employment status and depressive symptoms among postpartum women at risk for depression. **Methods:** Participants ($n=124$) were seven months postpartum and had participated in a randomized trial examining the efficacy of an exercise intervention for the prevention of postpartum depression. Participants completed questionnaires examining demographic characteristics, psychosocial variables, and depressive symptoms as measured by the Edinburgh Postnatal Depression Scale. **Results:** Sixty-eight percent of the participants reported that they were employed at six months post-randomization. Linear regression analyses indicated that after controlling for race/ethnicity, body mass index, education, income, marital status, age, antidepressant use, and ever breastfed, being employed was related to fewer depressive symptoms. Being single and taking an antidepressant medication at six weeks postpartum were also predictors of depressive symptoms at six months post-randomization. Additionally, among women who worked outside of the home, there were no differences between those who worked full-time vs. part-time on depressive symptoms. **Conclusion:** Employment during the postpartum phase may be a protective factor for depressive symptoms; however, causation cannot be inferred given the cross-sectional design of this study. Postpartum women, especially those at risk for depression, who are contemplating employment should consider the possible protective effect that employment may have on depressive symptoms.

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Paper Session 23

4:27 PM-4:45 PM

STUDY FINDINGS REGARDING A MIND-BODY INTERVENTION FOR PERINATAL DEPRESSION

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Background: Depressive symptoms are projected to be a leading cause of illness and disability in the world by 2030. Nearly 20% of pregnant women experience depressive symptoms during their pregnancy. Depressive symptoms are often co-morbid with stress and anxiety. Mind-body interventions are often used for managing depressive symptoms and associated stress and anxiety in pregnant women. **Purpose/Methods:** The purpose of this presentation is to report recent research about diverse women's interest and participation in mind-body interventions for stress and depression in the perinatal period. After IRB approval, focus groups were conducted to evaluate the feasibility and acceptability of mind-body therapies for stress and depressive symptom management. Following the focus groups, a guided imagery intervention was evaluated for preliminary effects on symptom management. **Results:** Black and Hispanic women reported that stress and depressive symptoms are pervasive in their lives and in their community and consistently expressed a strong interest in mind-body therapies. After 8 weeks of the guided imagery intervention, participants ($n=36$) reported lower scores on perceived stress ($p < 0.05$), anxiety ($p < 0.05$), and fatigue ($p < 0.05$) as compared to a usual care group ($n=36$). **Conclusions:** This study suggests that diverse women experience significant levels of stress, anxiety, and depressive symptoms during their pregnancies and that a mind-body intervention may be helpful for coping with stress and minimizing its negative effects. These findings are relevant to healthcare providers and researchers who should continue to focus on the unique needs of pregnant women, particularly when designing prevention and intervention strategies regarding stress and depressive symptoms.

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Paper Session 24

3:15 PM-3:33 PM

INTERMEDIATE-TERM EFFECTS OF DIABETES SELF-MANAGEMENT SUPPORT DELIVERED VIA MHEALTH

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Objective: To determine the effects of a mobile health (mHealth) diabetes self-management intervention that includes a patient-selected support person. **Methods:** In this ongoing randomized controlled trial, patients with poorly-controlled type 2 diabetes nominate an out-of-household relative or friend to support their self-management as their "CarePartner" (CP). They are then randomized to receive 12 months of either intervention (mHealth+CP) or usual care alone. In the intervention arm: (a) patients receive weekly automated calls for self-management monitoring and education, (b) CPs receive weekly emailed updates on how to support the patient's self-care, and (c) primary care teams receive notifications about potentially urgent issues. The outcomes of interest are glycemic control (HbA1c), general health status (from MOS Short Form - 12), adherence to diabetes medication (self-reported percent of medication taken as directed in past week), and diabetes-specific distress (Diabetes Distress Scale). Here we present the interim (Month 6) results, although a 12-month followup is also planned. **Results:** A total of 189 patients have completed their Month 6 assessment (intervention: 96, usual care: 93). Most were female (61%), mean age was 54.7 years ($SD: \pm 10.8$), 25% were of minority ethnicity, 41% reported low income ($< \$15K/year$), 34% had ≥ 3 chronic conditions, and mean baseline HbA1c was 9.4 ± 1.6 . Ordinary least squares regression analyses indicated that 6 months after being randomized, patients in the intervention arm reported better overall health status ($p = 0.043$, Cohen's $d = 0.33$ SD units). There was a possible trend for intervention patients to report to better medication adherence ($p = 0.095$, $d = 0.31$). There were no significant differences in either HbA1c levels (8.9 vs. 9.0 ; $p = 0.401$, $d = 0.12$) or diabetes distress ($p = 0.254$, $d = 0.23$). **Conclusions:** Interim analyses suggest that mHealth with intensified caregiver support improves overall self-rated health status, with a possible small benefit to medication adherence. Additional intervention exposure and/or other strategies might be needed to improve glycemic control and diabetes-specific distress.

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Paper Session 24

3:33 PM-3:51 PM

PARENTAL RISK FACTORS FOR FAMILY CONFLICT REGARDING DIRECT AND INDIRECT DIABETES MANAGEMENT TASKS

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¹Vanderbilt University, Nashville, TN; ²Vanderbilt University Medical Center, Nashville, TN; ³Vanderbilt University School of Medicine, Nashville, TN. For teens with type 1 diabetes (T1D), family conflict surrounding diabetes is linked to worse glycemic control and quality of life. However, few studies have examined parental factors that may increase risk for family conflict, or distinguished between family conflict about diabetes management on direct (e.g., arguing about remembering to check blood sugar) and indirect (e.g., arguing about school absences) tasks. We sought to examine relations between parental demographic and psychological factors with both types of family conflict, as well as family conflict and teens' diabetes management.

Participants were 120 parent-teen dyads; teens had mean age=14.8 (SD=1.5), mean HbA1c=9.2 (SD=.9) and duration of T1D for at least 6 months. Parents and teens completed measures of family conflict, self-care, and quality of life as part of an intervention study. Parents also completed questionnaires consisting of demographic information and depressive symptoms (CES-D). HbA1c was obtained from teens' medical records. To reduce common method variance, parent and teen reports of validated factors of direct and indirect conflict were combined into composite variables.

Nonparametric tests revealed that non-married parents and those with lower educational attainment ranked significantly higher for conflict around direct management tasks (all $p < .05$). For conflict around indirect management tasks, only paternal education significantly differed between groups ($p=.03$), with highest levels of conflict among the lowest education group. No significant differences emerged based on income or race/ethnicity. Bivariate correlations revealed that conflict over indirect tasks was related to both parent depressive symptoms ($r=.24$) and parent report of teen's self-care ($r=.26$, both $p \leq .01$). Conflict over direct tasks was related to HbA1c ($r=.20$), quality of life ($r=.22$) and parent report of teen's self-care ($r=.30$, all $p < .04$).

Findings indicate a link between parental factors and family conflict surrounding diabetes management tasks and a distinction between factors associated with conflict over direct and indirect management tasks. To improve adolescents' glycemic control and quality of life, clinicians and researchers may consider targeting families with particular risk factors to reduce diabetes-specific family conflict.

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Paper Session 24

3:51 PM-4:09 PM

PARTNER INFLUENCE ON DIABETES SELF-MANAGEMENT AMONG ADULTS WITH TYPE 2 DIABETES

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Individuals with Type 2 Diabetes (T2D) must engage in daily self-management behaviors to maintain glycemic control and prevent complications. However, many people with T2D struggle to regularly engage in these behaviors. A strong predictor of self-management behaviors is self-efficacy for diabetes (Diabetes SE). Given that management of a chronic illness is often shared with a person's romantic partner, we examined how partners of adults with T2D impact patients' Diabetes SE. Adults ($M_{age} = 51$; 59.3% women) with T2D and their partners ($N = 51$ couples) were recruited through an online survey. Partners completed the Diabetes Management Partner Investment scale (Investment), Health Related Support Scale (Support), and the Relationship Satisfaction subscale from the Investment Model Scale (Relationship Satisfaction). Patients completed the Summary of Diabetes Self-Care Activities scale, which measures frequency of testing blood sugar, exercising, eating a healthy diet and checking feet as well as the Stanford Self-Efficacy for managing Diabetes Scale (Diabetes SE). Consistent with previous research, Diabetes SE was significantly related to patients' frequency of testing blood sugar ($r = .21, p < .05$), eating a healthy diet ($r = .49, p < .001$), and exercising ($r = .33, p < .001$). Pairwise correlations revealed that partner-reported Support ($r = .43, p < .001$), Investment ($r = .30, p < .01$) and Relationship Satisfaction ($r = .57, p < .001$) all related to patient-reported Diabetes SE. A regression analysis predicting Diabetes SE from the three partner variables revealed that partners' Relationship Satisfaction was the strongest predictor ($b = .50, p < .001$) followed by Support ($b = .32, p < .05$). Partner Investment was not a significant predictor. These partner variables explained a large proportion of variability in Diabetes SE ($R^2 = .40$) lending support to the hypothesis that partners affect the likelihood of Diabetes Self-Management. Couples-based diabetes management interventions may be effective for increasing patients' self-efficacy and self-management behaviors.

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Paper Session 24

4:09 PM-4:27 PM

DIABETES SELF-MANAGEMENT IN EMERGING ADULTS: CHANGES ONE YEAR POST-HIGH SCHOOL

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Emerging adults with type 1 diabetes (T1D) experience many developmental challenges that may impact T1D management, including moving away from the family home. This study examined changes in self-management behaviors across a 1 year period after high school graduation in a cohort of emerging adults with T1D. It was hypothesized that self-management behaviors would increase over time, particularly in youth living away from home, and relate to glycemic control one year post-high school graduation. Seventy-nine emerging adults (51% female; $M_{age} = 18.1 \pm 4$ yrs; 71% Caucasian; 65% living away from home post-high school) with T1D ($M_{duration} = 7.1 \pm 4.5$ yrs) reported on T1D self-management behaviors at three time points over a one year period. A1c and BG data were extracted from medical charts. Using the Self-Management of Type 1 Diabetes in Adolescents scale (SMOD-A), collaboration with parents decreased and T1D problem-solving and communication increased over the first year post-high school ($p < .05$). No changes were found in self-reported adherence; however, objective indicators found worsening A1c (8.25% vs. 8.56%) and fewer BG checks (3.81 vs. 3.23 checks/day) from baseline to one year follow up, $p < .05$. There were no differences in self-management behaviors or glycemic control by living situation, indicating that youth who lived at home vs. away from home demonstrated similar patterns of T1D management and glycemic control. Problem solving appeared to be protective against worsening glycemic control, and higher baseline diabetes problem solving significantly predicted better A1c at the one year follow-up after accounting for baseline A1c (adjusted $R^2 = .52, p < .01$). Emerging adults demonstrate increased independence in T1D problem solving and communication with health care providers in the year post-high school, regardless of living situation. Problem-solving skills may help emerging adults adapt T1D self-care in response to unpredictable schedules post high-school, and promoting these skills may prevent deteriorations in glycemic control during this potentially risky period.

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Paper Session 24

4:27 PM-4:45 PM

SUCCESSFUL SELF-MANAGEMENT OF CHRONIC ILLNESS: THE ROLE OF "HABIT" VS REFLECTIVE FACTORS IN EXERCISE AND MEDICATION ADHERENCE

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Background. Self-management of chronic illness requires regular engagement in multiple treatment-related behaviors, yet non-adherence to these behaviors is pervasive. Health behavior theories have focused primarily on the importance of treatment-initiation factors, such as treatment-related beliefs for predicting adherence; interventions based on these theories have had little effect on improving adherence and outcomes. Purpose. To propose and test the importance of two additional theoretical factors for long-term adherence to treatment recommendations, beyond behavior initiation—experiential feedback from the behavior resulting in illness-management “coherence” and habit development—and to compare the relative importance of these factors for two different treatment behaviors: medication adherence and physical activity. Method. Patients ($n=128$) with Type 2 Diabetes participated in an in-person ($n=79$) or online ($n=49$) version of the study. For both versions, treatment-related barriers and beliefs, “illness coherence”, and habit strength were measured for medication-taking behavior and physical activity at baseline. Self-reported medication adherence and physical activity were measured one month post-baseline. Participants in the in-person version used an electronic monitoring pill bottle and an accelerometer for a month, which allowed objective assessment of medication adherence and physical activity, respectively. Results. Counter to expectations, the only predictors of self-reported and objective medication adherence were patient-reported medication barriers and med-taking habit-strength (and only barriers predicted *intentional* non-adherence). Similarly, the only predictors of self-reported and objective physical activity were patient-reported physical activity barriers and habit strength. Conclusions. This multi-method assessment of the theoretical predictors of medication adherence and physical activity for self-management of Type-2 Diabetes indicates that patient-reported barriers and treatment habit-strength are more important as targets of interventions for promoting long-term treatment adherence and successful self-management than are reflective, initiation factors such as treatment-related beliefs and experiential feedback from treatments.

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Paper Session 25

3:15 PM-3:33 PM

THE ASSOCIATION OF ADVERSE CHILDHOOD EXPERIENCES WITH CHILDHOOD OBESITY USING A NATIONAL CHILD SURVEY

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Background: Childhood maltreatment has been associated with elevated risk of developing obesity over the life-course while adjusting for physical activity levels and socioeconomic status. It is not clear if adverse childhood experiences (ACEs) not defined as maltreatment are also associated with obesity, especially when controlling for habits/conditions known to contribute to the development of obesity. Using cross-sectional national survey data from the National Survey of Children's Health (2010-2012), our study evaluated associations between ACEs and obesity status in children while adjusting for demographic status, socioeconomic status and other habits that predict the development of obesity. **Methods:** Parent self-report of children's height and weight were classified according to CDC guidelines for body mass index (BMI) for age and sex. Nine ACEs were reported and used to create a composite ACE score; examples include "hard to get by on families income" and "lived with a parent who died". Frequencies and weighted estimates of sociodemographics and other predictors of obesity (e.g. dietary and exercise habits) were calculated for all children 10 years and older, and compared using the Rao-Scott chi-square test. Weighted, fully adjusted multinomial logistic regression models were employed to assess the independent association with ACEs and BMI status. **Results:** Out of 43,864 children aged 10 years and older, 15.6 % of were overweight and 15.7% were obese. More than half of the children had experienced at least 1 ACE while 30.1 % experienced 2 or more ACEs. Children with 2 or more ACEs were more likely to be obese (OR=1.93, 95% CI=1.65-2.25) as well as overweight (OR=1.52, 95% CI=1.31-1.75) compared to those who did not experience any ACEs. In the adjusted model the association was attenuated but was still statistically significant for obese (OR 95% CI: 1.41, 1.18-1.69) and overweight (OR 95% CI: 1.34, 1.14-1.58). **Discussion:** Children with exposure to ACEs are at increased risk of being overweight or obese. This study adds to the growing evidence that exposure to ACEs other than maltreatment are associated with an increased risk of obesity. Behavioral and social interventions to prevent ACEs or improve resiliency among exposed children may reduce childhood obesity.

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Paper Session 25

3:33 PM-3:51 PM

CHILDHOOD ABUSE IN CARIBBEAN YOUNG ADULTS: ITS ASSOCIATION WITH DEPRESSION, POST-TRAUMATIC STRESS SYMPTOMS AND SKIN BLEACHING

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Background: The prevalence of skin depigmentation/skin bleaching among blacks, estimated at 35%, is on the rise and is associated with a host of negative health and medical consequences. Current etiological approaches do not fully capture the emotional and psychological underpinnings of skin bleaching. The current study investigated the potential mediating role of anxiety, depression, or post-traumatic symptoms (avoidance and hyperarousal) on the relationship between childhood physical and sexual abuse and skin bleaching. **Methods:** A total of 1578 university participants (ages 18-30 years, and 63.11% female) provided data for the present analysis. They represented three Caribbean countries: Jamaica, Barbados, and Grenada. They all completed self-reported measures of general demographic information along with the short screening scale for posttraumatic stress disorder (DSM-IV), childhood trauma, and skin bleaching questions. **Results:** Our findings showed that individuals who have bleached their skin were more likely to have been abused as children (20.2% versus 10.6%, $p < .001$), were more likely to have significant symptoms of trauma (28.1% versus 18.7%, $p=.002$), and were more likely to have significant depression (37.7% versus 29.0%, $p=.013$). We found that trauma-related hyperarousal symptoms positively mediated the relationship between childhood physical (Indirect Effect=.0202, $p < .05$) sexual abuse and skin bleaching, while avoidance and depressive symptoms did not (Indirect Effect=.0031, $p>.05$). **Conclusion:** The presence of trauma symptoms and CPSSA may increase the likelihood of skin bleaching. Findings suggest that individuals who bleach their skin should be screened for trauma symptoms.

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Paper Session 25

3:51 PM-4:09 PM

EXPOSURE TO VIOLENCE AMONG MARGINALIZED URBAN YOUTH

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In Philadelphia, approximately 5,000 youths are homeless, reflecting a two-fold increase from 2009-2011. Research suggests that homeless or housing insecure youths experience elevated rates of violence.

Our objective was to examine the role of housing insecurity, homelessness, and violence in the lives of marginalized youth living in low-income Philadelphia neighborhoods.

In 2013-2014, we conducted a photo-elicitation study with 19 youth from two City of Philadelphia Mural Arts Program job training and GED programs. After ethics training, participants used digital cameras to document their "journeys to home," noting challenges and successes in finding secure housing. Participants selected 10 photographs to discuss in interviews, which were transcribed and analyzed in NVivo 10 using an iterative approach.

Without specific prompting from the interviewers, 16 participants raised issues regarding violence in relation to their journeys to home. Three major themes emerged. First, violence was pervasive in the participants' neighborhoods, with gunshots and sirens considered a normal part of everyday life. Second, participants attributed violence to: a) place-based causes (e.g., bad neighborhood, parks or housing projects; territoriality); b) mistaken identity or being in the wrong place at the wrong time; c) economic pressures leading to illicit activities; d) drugs; and e) biological explanations (e.g., violence is part of who the person is). Third, participants described coping with violence using: a) appraisal-focused strategies to modify thoughts about violence; b) problem-focused strategies to eliminate stressors (e.g., avoidance of dangerous places) and c) emotion-focused strategies to distract or eliminate hostile feelings.

For the majority of the participants in this study, violence was intertwined with the search for secure homes, and both issues should be addressed simultaneously in programs to improve the health and safety of urban, disadvantaged youth.

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Paper Session 25

4:09 PM-4:27 PM

INTERPERSONAL VIOLENCE AS IT RELATES TO RISKY SEXUAL BEHAVIOR AMONG SOCIAL SERVICE-INVOLVED FEMALES

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Rates of sexually transmitted infections (STIs) among adolescents are rising (CDCP, 2011). The majority of adolescents who contract STIs do so through risky sexual behavior (Alleyne-Green et al., 2012). Previous literature has identified multiple correlates of risky sexual behaviors among adolescents, including physical abuse, mental health concerns, and substance use. Few studies, however, have examined these relationships in a comprehensive model. The purpose of this study was to examine whether interpersonal violence predicts risky sexual behavior. Additionally, the current study examined whether mental health symptoms and substance use were intervening variables within this hypothesized relationship. The sample was recruited from social service agencies in a New England state. These participants (N=179) were 18.9 years old on average (SD = 1.88) and were 37.2% White, 19.3% Black, 37.9% Multiracial, and 5.6% other. Simple regression and multiple mediation analyses (Hayes, 2013) were conducted to examine whether physical assault predicted risky sexual behavior, and whether post-traumatic stress disorder (PTSD) and depression symptoms, alcohol use, and marijuana use mediated this relationship. Results revealed that females who were physically assaulted did engage in more sex without a condom, ($R^2=.373$, $F(2,176) = 14.245$, $p < .01$). Additionally, PTSD symptoms significantly mediated the relationship between physical assault and risky sexual behavior $b = -0.649$, [95% bias-corrected bootstrap confidence interval = -2.495, -.096]. Results were non-significant for depression, alcohol use, and marijuana use as mediators for physical assault and sex without a condom. The results suggest that young women who experience intimate partner violence are at a higher risk for engaging in sexual intercourse without a condom and PTSD symptoms transmit a portion of this effect. Examining more closely the impact physical and emotional trauma has on adolescents and their sexual health can help develop prevention efforts for adolescents who have experienced such violence.

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Paper Session 25

4:27 PM-4:45 PM

DOES CHILDHOOD ABUSE MATTER: PREDICTING POSTTRAUMATIC STRESS SYMPTOMS IN ADULT LATINOS IN THE UNITED STATES

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Introduction: Childhood abuse has been associated with mental health issues, including posttraumatic stress disorders (PTSD). However, little is known about the prevalence of childhood abuse and its association with PTSD among Latino Americans, the largest minority population in the U.S. Using the National Latino and Asian American Study (NLAAS), we examined the association between early physical and sexual abuse and PTSD of Latino Americans. **Methods:** We utilized data on all Latino Americans ($N=2,554$), aged 18 years or older who resided in the U.S. The average age in years of participants was 38.05 ($SD=15.07$). Two-step logistic regression models were performed to estimate associations between childhood physical and sexual abuse and two outcomes (PTSD-lifetime and PTSD-past year), controlling for known socio-demographic and acculturation-related predictors. **Results:** Of the sample, 31.3% experienced physical abuse and 11.6% had sexual abuse in childhood. Also, 4.5% reported PTSD-lifetime and 2.5% had PTSD-past year. In Step-1, gender, US-born, US-length, acculturation stress, and discrimination predicted both outcomes. English proficiency was positively related to PTSD-lifetime, while employment was negatively related to PTSD-past year. In Step-2, childhood physical abuse and sexual abuse significantly contributed to PTSD-lifetime and PTSD-past year, respectively. Women had significantly higher levels of PTSD-lifetime when experiencing physical abuse compared with men. **Conclusion:** This study advances the literature concerning the positive relationship between childhood abuse and PTSD among Latino Americans and related gender patterns therein. The findings that discrimination and acculturation stress increased the likelihood of PTSD may have implications for behavioral health care among Latinos.

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Thursday
March 31, 2016
6:00 PM-7:00 PM

B001

6:00 PM-7:00 PM

OUTCOMES OF A PILOT RANDOMIZED TRIAL OF WEIGHT GAIN PREVENTION INTERVENTIONS FOR AFRICAN AMERICAN BREAST CANCER SURVIVORS

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Few lifestyle interventions have focused on preventing weight gain in breast cancer survivors. There is limited evidence on effective weight control strategies for African American breast cancer survivors in particular. This study evaluated the feasibility and efficacy of two 6-month interventions that used wireless scales, with or without activity trackers, and focused on daily self-weighing (DSW) to promote weight gain prevention among African American breast cancer survivors. African American women ($n=35$) were randomized to one of three groups: 1) DSW + activity tracking (INT+); 2) DSW (INT); or 3) delayed control (CON). Intervention participants received an individual session, wireless scale (and activity tracker; INT+ only) that transmitted objective data to a mobile app and website, 24 email lessons on weight control behaviors, and 24 emails with tailored feedback based on objective weight (and activity data). The intervention encouraged women to use DSW as the primary self-monitoring strategy and promoted small changes in eating behaviors and regular exercise to prevent weight gain. Participants completed in-person and online assessments at baseline, 3 and 6 months. Participants were on average 53.0 ± 9.1 y, with BMI 33.9 ± 5.9 kg/m², 3.1 ± 2.3 y post-diagnosis, and 66% had college degrees. Retention was 97% at 6 months. Weight change after 6 months was $-1.9 \pm 3.0\%$ in the INT+ ($p=.08$) and $-1.0 \pm 3.6\%$ in the INT groups ($p=.75$) compared with a $.31 \pm 1.1\%$ gain in the CON group ($p=.06$, $p=.60$ vs. CON). The proportion of INT+, INT and CON participants that were at or below baseline weight was 72.7%, 53.8% and 45.5% respectively (effect sizes $d=.64$, $d=.18$ vs. CON), and the percentage of participants weighing 5 or more d/wk significantly differed across groups (81.9% vs. 38.5% vs. 0%; $p < .0001$). Within the INT+ group, 72.7% of participants wore activity trackers 5 or more d/wk. Among INT+ and INT participants, 100% would recommend the program to other breast cancer survivors. A weight gain prevention intervention focused on DSW as a self-monitoring strategy, along with small changes in eating and regular exercise, demonstrates potential for producing modest weight losses and shows initial promise for preventing weight gain.

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B002

6:00 PM-7:00 PM

PATIENT AND ONCOLOGIST COST DISCUSSIONS

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Financial toxicity—the burden of treatment costs and its impact on patient well-being, treatment decisions, and health outcomes—affects many cancer patients. Explicitly discussing cost during clinical visits may ease financial toxicity, but oncologists are often hesitant to discuss cost. A better understanding of how cost discussions are currently occurring is needed to improve care and inform oncologist training interventions. We conducted an observational study to determine the presence and nature of patient-oncologist treatment cost discussions during clinic visits.

Data were video-recorded clinic visits taken from a larger communication study of African American patients ($N=114$) and their medical oncologists ($N=20$) meeting for the first time to discuss treatment options. Cost discussions were defined as any mention of a direct (e.g. paying for treatment) or indirect (e.g. time off work) cost to the patient for treatment. Trained coders observed the videos and coded for presence, duration, initiation, topic, and oncologist management of the cost discussion.

Cost discussions occurred in 43.9% ($n=50$) of visits. Across these 50 visits, 93 discussions occurred ($M=1.9$ per visit; $SD=1.4$; mean duration=30 seconds; $SD=28.2$). Patients initiated 60.2% of discussions; oncologists initiated 38.7%. Time off work was the topic most frequently discussed (47.3%), followed by insurance (25.8%), transportation (11.8%), paying for treatment (7.5%), and job loss (4.3%). In 46.2% of discussions, oncologists acknowledged/addressed the issue, in 12.9% they referred the patient to another healthcare professional (e.g. social worker), and in 5.4% they acknowledged the topic but did not address it. The remaining 35.5% were physician initiated.

Analyses of covariates showed that visits with younger patients were more likely to have a cost discussion than visits with older patients ($p=.02$) and retired patients were less likely to have cost discussions ($p=.05$) than other patients.

Findings suggest discussing cost is important to patients, but oncologists infrequently initiate cost discussions and often provide little or no response to patients when they initiate cost topics. Further research and interventions are needed to address financial toxicity.

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B003

6:00 PM-7:00 PM

PERCEIVED COGNITION AMONG PATIENTS UNDERGOING ALLOGENEIC HEMATOPOIETIC CELL TRANSPLANTATION (HCT)

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Background: Allogeneic hematopoietic cell transplantation (HCT) recipients often report reduced cognitive functioning before and after HCT. However, research is sparse comparing change over time in perceived cognition among patients undergoing allogeneic HCT relative to non-cancer controls. To address this issue, the current study compared changes in perceived cognition among patients undergoing transplant (HCT) to participants without cancer (CA-). **Method:** The sample comprised 91 patients with cancer who underwent allogeneic HCT (age $M=52$ years, 41% female) and 57 control participants (age $M=56$ years, 51% female) who had no history of cancer, and were matched on gender, age, and education. Participants completed self-report measures of demographics and subjective cognition (Everyday Cognition Measure; ECog) pre-transplant and 3 and 12 months post-transplant as a part of a larger quality of life study. Control participants completed measures at corresponding time points. **Results:** Mixed models revealed significant group effects for global cognition (i.e., ECog total score), as well as the cognitive domains of language, memory, visuospatial abilities, divided attention and planning (i.e., ECog subscales). In each instance, patients reported greater cognitive complaints than controls across all three time points (p -values $.05$). Additionally, there was significant change over time for memory, such that both groups reported worsening memory over time ($p < .05$). No other cognitive domains worsened over time in either group (p -values $>.05$). **Conclusions:** Results suggest that patients undergoing HCT report worse cognition across multiple domains than non-cancer controls. Overall cognition, language, memory, visuospatial abilities, divided attention and planning were concerning for patients. Future studies should examine predictors of cognitive complaints and relationships with psychological outcomes among transplant survivors. Additional research should evaluate interventions designed to teach patients compensatory strategies to address perceived cognitive problems.

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B004

6:00 PM-7:00 PM

PERCEPTIONS OF CANCER AS A DEATH SENTENCE: CHANGES IN US PREVALENCE AND ASSOCIATIONS WITH BEHAVIORAL OUTCOMES

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Over the past 20 years, mortality across all cancers is declining. Despite this overall progress, however, a majority of US adults continue to perceive cancer as a death sentence (CDS) and this perception is related to engaging in risky behaviors and for some cancers, a later stage of diagnosis. Thus, it's important to track this perception over time in the population and its' association with risk reducing behaviors. This study assessed change in CDS in a nationally-representative sample of US adults over a five-year period, examined sociodemographic differences and associations with cancer-related behaviors (e.g., physical activity, smoking status, sedentary behavior). This study used the 2008 and 2013 iterations of the Health Information National Trends Survey (HINTS 3 and HINTS 4 Cycle 3) to assess change over time in CDS and to test for sociodemographic differences and behavioral correlates using bivariate statistics and multivariable linear and logistic regression models. The percentage of US adults who agreed cancer was a death sentence declined significantly from 2008 (64.1%) to 2013 (57.6%) even after controlling for sociodemographic covariates. Within each iteration of HINTS, age, education, and cancer history were associated with CDS; those 35-49 years old, those with lower levels of education, and respondents with no personal cancer history showed higher agreement with CDS. Those who perceived CDS were less likely to meet physical activity guidelines and more likely to be smokers but these associations became non-significant after controlling for sociodemographic variables. In the models using behavioral outcomes, CDS was associated with more sedentary behavior.

Perceptions of CDS decreased significantly from 2008 to 2013 in the US adult population. Given the large amounts of information about cancer disseminated by the media, it is critical to see if this trend continues over time. Bivariate associations of CDS with certain sociodemographic variables were consistent over the two iterations and point to the malleable social determinants of perceiving CDS. The general lack of association with behavioral outcomes suggests this perception may interact with other factors (e.g., self-efficacy; motivation; access to information) in predicting risk behaviors and could be the focus of future studies.

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B005

6:00 PM-7:00 PM

PHYSICAL ACTIVITY AND THE NEWLY DIAGNOSED LUNG CANCER PATIENT: BELIEFS AND PREFERENCES PRIOR TO CHEMOTHERAPY

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Purpose: Participation in regular physical activity has been found to have a number of quality of life and health benefits for lung cancer patients. No studies to date, however, have examined the physical activity beliefs and preferences of newly diagnosed lung cancer patients who are about to commence chemotherapy. Yet, pre-chemotherapy may be a time when lung cancer patients make decisions and plans about lifestyle choices that will best support them through their chemotherapy. The aim of this study was to explore physical activity programming and counselling preferences and beliefs about physical activity in newly diagnosed lung cancer patients scheduled to receive chemotherapy. Methods: Newly diagnosed lung cancer patients (n=43) completed the researcher-administered survey during their consult for chemotherapy. Results: Few participants (n=7) reported meeting public health recommendations for physical activity. The main findings were that the majority of participants were interested or possibly interested in a physical activity program (n=29), indicated a preference for a home-based program (n=21) and preferred it to start during chemotherapy (n=20). Most participants indicated that building or maintaining strength (n=26) was an anticipated benefit of physical activity while fatigue (n=11) was perceived most frequently as a barrier. Conclusions: These data detail information about physical activity and programming preferences and beliefs that may be useful for the design of optimal physical activity interventions for newly diagnosed lung cancer patients.

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B006

6:00 PM-7:00 PM

PHYSICAL ACTIVITY, SELF-EFFICACY AND SELF-ESTEEM IN BREAST CANCER SURVIVORS: A PANEL MODEL

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Physical activity has been consistently associated with improved self-esteem in breast cancer survivors. However, the mechanisms underlying this relationship are poorly understood. The purpose of this study was to examine how physical activity and self-efficacy influence changes in self-esteem across a six-month period in breast cancer survivors. Increases in physical activity were hypothesized to result in increases in self-efficacy which, in turn, were hypothesized to influence increases in physical self-worth and global self-esteem. Breast cancer survivors (n=370; M age = 56.04 years) wore accelerometers to measure physical activity and completed measures of self-efficacy, physical self-worth, and global self-esteem at baseline and 6 months. Data were analyzed using a panel model within a covariance modeling framework. The hypothesized model provided a good fit to the data ($\chi^2 = 67.56$, $df = 26$, $p < 0.001$; CFI = .98; SRMR = .05). Women who were more active at baseline reported significantly higher levels of barrier ($\beta = .29$) and exercise ($\beta = .23$) self-efficacy. In turn, more efficacious women reported significantly higher physical self-worth ($\beta = .26$, .17). Finally, higher physical self-worth was significantly associated with greater global self-esteem ($\beta = .47$). Relationships were similar among changes in model constructs over the 6 month period. However, the relationship between changes in barrier self-efficacy and physical self-worth was not significant. Upon controlling for covariates including age, income, education level, body mass index, stage at diagnosis, number of comorbidities, and time since diagnosis, the hypothesized model provided an excellent fit to the data ($\chi^2 = 59.93$, $df = 33$, $p = .003$; CFI = .99; SRMR = .03). Relationships between model constructs remained stable upon addition of the covariates, maintaining the same associations. Our findings provide support for the role played by physical activity and self-efficacy in positive self-esteem. Future studies might investigate this potential method of enhancing self-esteem through increasing physical activity and self-efficacy in breast cancer survivors.

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B007

6:00 PM-7:00 PM

PHYSICIAN ATTITUDES ABOUT AND ADHERENCE TO GUIDELINES FOR SCREENING COLONOSCOPY INTERVALS

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Objective: Physician determinants of colorectal cancer (CRC) screening recommendations are poorly understood. Our aim was to better characterize colonoscopic screening attitudes and practices of a diverse sample of endoscopists. **Methods:** Physicians who participate in the Clinical Outcomes Research Initiative (CORI) consortium and perform screening colonoscopy were invited to complete a survey online or via mailed letter. Data from the CORI endoscopy report repository were extracted. **Results:** 197 CORI physicians, from 14 states, who had performed 14574 screening colonoscopies in the prior 24 months met inclusion criteria, and 82 (42%) completed a survey. Respondent specialty was gastroenterology (66%), internal medicine/family practice (14%), surgery 16%, and other (16%). Respondents worked in small community practices (22%), large community practices (34%), government (23%) and universities (21%). Based on vignettes, 96% would recommend a 10-year interval after an initially normal colonoscopy for an average-risk person; 91% would recommend a 5-year interval after a normal colonoscopy for someone with a first degree relative with CRC. The majority agreed that the large volume of data (62%) and of clinical practice guidelines (53%) make it difficult to know current guidelines. Over half of respondents (55%) agreed that there were benefits to repeat colonoscopy not captured in guidelines. Based on endoscopy report data for the 197 eligible physicians, 42% were guideline-adherent in their follow-up recommendations for $\geq 90\%$ cases for patients with no CRC family history, whereas 38% were compliant in $\geq 90\%$ cases for patients with a CRC family history. For patients with and without family history of CRC, 12% of physicians were compliant in $< 10\%$ of cases. **Conclusions:** Physicians participating in CORI have variable adherence to guidelines for CRC screening interval recommendations. Attitudes toward colonoscopy guidelines were generally positive but variable and suggested that physicians may feel justified in recommending shorter intervals than guidelines recommend. Next steps include assessing for difference in responders and non responders and examining correspondence between attitudes and guideline adherence in colonoscopy interval recommendations.

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B008

6:00 PM-7:00 PM

PHYSIOLOGICAL EFFECTS OF STRESS AMONG FAMILY MEMBERS OF CANCER PATIENTS

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Cumulative evidence shows cancer caregivers are at greater risk for premature morbidity compared to non-caregivers. Recent evidence implies their poor physical health may be attributable to their elevated stress from caregiving. The extent to which caregiving experiences relate to sympathetic nervous system (SNS) activities, physiological markers of health, among cancer caregivers is yet unknown.

Family caregivers of colorectal cancer patients ($N=91$; age $M=47$ years; 75% female; 64% Hispanic; time since patient diagnosis $M=3.5$ months) participated in the study. Primary outcomes were cortisol, dehydroepiandrosterone-sulfate (DHEAS), and alpha-Amylase (AA), assayed from the saliva sample as non-invasive assessment of SNS activities. Primary predictors were caregivers' self-reported perceived stress from cancer (Cancer Appraisal Scale), caregiving (Pearlin Stress Scale), and family obligation (Familiism). Covariates were age and gender.

Results of multivariate general linear modeling showed that at awakening, greater perceived stress from cancer related to higher AA ($B=47.47$, $p<.01$), and greater family obligation marginally related to lower AA and DHEA-S ($B=-34.82$, -0.42 , $ps<.08$, respectively). At bedtime, greater perceived stress from cancer was again related to higher AA ($B=44.50$, $p<.05$); and family obligation was marginally related to higher DHEA-S and lower cortisol ($B=0.78$, -5.42 , $p<.07$, respectively).

Findings suggest perceived stress from having cancer in the family has a substantial impact on the family caregivers' SNS activity levels around the time of diagnosis, which potentially have long-term health implications if not managed properly. Future investigation on diverse sources of cancer-related stress and long-term health consequences of such stressor is warranted.

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B009

6:00 PM-7:00 PM

POST-TRAUMATIC GROWTH AND PSYCHOLOGICAL OUTCOMES IN WOMEN WITH OVARIAN CANCER: THE ROLE OF RUMINATION AND SOCIAL SUPPORT

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Introduction: Social support and rumination have been established as positive predictors of post-traumatic growth (PTG). However, there has been limited research on PTG among women with ovarian cancer. The purpose of the present study was to examine the role of rumination (deliberate, intrusive) and social support in PTG, psychological distress (PD), and psychological well-being (PWB) among women with ovarian cancer. **Method:** Participants were 67 women with ovarian cancer who were recruited through cancer-related websites and social media to complete an online questionnaire that assessed social support, rumination, psychological distress and well-being, and also included medical and demographic questions. **Statistical Approach:** Hierarchical linear regression analyses were conducted to examine the role of rumination (deliberate and intrusive) and social support in PTG, PD, and PWB. In each regression, age and was entered as a covariate in block one, followed by the rumination types and social support in block two. **Results:** The PTG model was significant, $F(4, 57) = 3.55$, $p<.001$, with deliberate rumination ($\beta = .491$, $p = .002$) and intrusive rumination ($\beta = -.361$, $p = .019$) significant in the model. The PD model was also significant, $F(4, 59) = 10.96$, $p<.001$, with social support ($\beta = -.357$, $p = .001$) and intrusive rumination ($\beta = .436$, $p = .001$) as significant predictors. The PWB model was also significant, $F(4, 57) = 12.25$, $p<.001$, with social support ($\beta = .438$, $p<.001$) and intrusive rumination ($\beta = -.475$, $p<.001$) significant in the model. **Discussion:** The results indicate that rumination is important predictor of PTG, PD, and PWB among women with ovarian cancer. Notably, both forms of rumination were predictive of PTG. Social support was not significant in the PTG, but it was predictive of PD and PWB. Rumination may be a particularly important consideration in facilitating growth and in addressing mental health problems among women with ovarian cancer.

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B010

6:00 PM-7:00 PM

PREDICTORS OF CANCER-RELATED DEPRESSION IMPROVEMENT OVER TIME

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Objectives: Prevalence of depression in patients with cancer ranges 8-24% within the first year of a cancer diagnosis. Defining predictors of depression improvement over time is essential for developing targeted programs to relieve this disruptive symptom. The purpose of this project was to determine predictors of depression improvement over 12 months among adults with cancer being treated for depression. **Methods:** A secondary analysis of the Indiana Cancer Pain and Depression trial was performed. Patients with depression (defined by PHQ-9 score ≥ 10 with depressed mood and/or anhedonia) were randomized to centralized telecare management or usual care. Patients ($n = 309$) were interviewed at baseline and after 1, 3, 6, and 12 months. Depression severity and improvement were assessed with a continuous and a categorical measure, respectively. Predictor variables included: treatment arm, baseline depression severity, passage of time, reduction in pain severity, gender, socioeconomic disadvantage, medical comorbidities, and phase of cancer. Multivariable repeated measures were conducted adjusting for age, marital status, race, and type of cancer. **Results:** Significant predictors of both categorical and continuous depression improvement included participating in the intervention group ($\beta = -0.2586$, $p<.0001$, odds ratio [OR] = 1.59, 95% confidence interval [CI] = 1.06 – 2.36), passage of time ($\beta = -0.0140$, $p<.0001$, OR = 1.09, CI = 1.05 – 1.13), and reduction in pain severity ($\beta = -0.249$, $p<.0001$, OR = 1.12, CI = 1.04 – 1.19). Patients who were socioeconomically disadvantaged were less likely to experience categorical or continuous depression improvement. **Conclusions:** Services designed to improve depression symptoms should also include pain management. Additional resources may be needed for those who are socioeconomically disadvantaged.

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B011

6:00 PM-7:00 PM

PRELIMINARY RESULTS FROM THE SEXUAL THERAPY AND REHABILITATION AFTER TREATMENT FOR OVARIAN CANCER (START-OC) STUDY

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Background: For ovarian cancer (OC) survivors, serious sexual dysfunction is one of the most distressing long-term side effects of treatment, with up to 90% survivors reporting a loss of interest in sexual activity for years after diagnosis. Despite the prevalence and magnitude of the problem, treatment-related sexual problems are not addressed for most survivors. **Methods:** We are currently piloting a novel psychosocial intervention to help women manage sexual changes and improve sexual functioning after ovarian cancer treatment. Guided by Self-Determination Theory, this group-based intervention also aims to enhance women's self-efficacy to address problems. Eligibility criteria include: OC diagnosis, functional ability, and sexual dysfunction. Women participate in a single half-day workshop, complete questionnaires, and engage in a booster telephone session. Detailed workshop evaluations are collected to assess women's feedback of the group session. This study is currently enrolling. **Results:** To date, 312 women have been contacted, of which 44 (14.1%) have attended or are scheduled to attend a group session. Preliminary feedback data indicate high favorability of the group session; 100% of the women ($N=16$) agreed or strongly agreed that the content of the group session was easy to understand and that the group session gave helpful information for addressing treatment-related sexual problems. Additionally, 100% of participants agreed that they were satisfied with the group session and enjoyed participating in it. **Conclusions:** Preliminary data show that women report multiple benefits from the session content and are highly satisfied with the group session. However, low response rates raise several questions with regard to timing and recruitment of a sexual health intervention after OC treatment. Next steps include quantitative analyses of changes in sexual function, sexual knowledge, and sexual self-efficacy consequent to the group intervention.

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B012

6:00 PM-7:00 PM

PRE-TRANSPLANT COPING RESPONSES PREDICT DISTRESS AMONG ALLOGENEIC HEMATOPOIETIC CELL TRANSPLANT RECIPIENTS

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Background: Hematopoietic cell transplantation (HCT) is associated with a high level of distress, but studies investigating coping with distress are sparse. The present study investigated use of approach and avoidant coping strategies prior to transplant. Additionally, pre-transplant coping strategies were examined as predictors of distress over time. **Method:** Allogeneic transplant recipients were recruited to participate in a longitudinal study of quality of life. Participants completed self-report measures of approach and avoidant coping (Coping Responses Inventory), depression (Center for Epidemiologic Studies Depression scale), anxiety (State Trait Anxiety Inventory), stress (Perceived Stress Scale), and mental and physical functioning (SF-36) pre-transplant and 3 and 12 months post-transplant. **Results:** A total of 138 HCT recipients (age $M = 51$ years, 43% female) participated. Prior to HCT, participants reported higher levels of approach coping ($M = 43.3$, $SD = 12.1$) on average than avoidant coping ($M = 23.7$, $SD = 10.1$, $p < .001$). Because use of approach and avoidant coping were correlated ($r = .51$, $p < .001$), mixed models included both approach and avoidant coping as predictors and also adjusted for age and gender. These models revealed that greater approach coping at baseline predicted less depression and anxiety and better physical function across the 12 months following HCT (p values $< .05$). In contrast, greater avoidant coping at baseline predicted greater depression, anxiety, and stress and worse mental function across the 12 months following HCT (p values $< .001$). **Conclusion:** Results suggest that HCT recipients who actively utilize approach coping strategies for cancer-related emotions and thoughts report less distress and better physical function over time while those who use avoidant coping strategies report higher distress overall. Future research should evaluate the efficacy of interventions targeting coping strategies among HCT recipients.

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B013

6:00 PM-7:00 PM

PREVALENCE AND CORRELATES OF SEDENTARY BEHAVIOUR AMONG NOVA SCOTIAN CANCER SURVIVORS

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Purpose: Sedentary time (ST) has been shown to be a risk of chronic disease independent of meeting public health physical activity (PA) guidelines. Studies have shown that cancer survivors are more inactive than the general population. There is little research among cancer survivors examining sedentary time; however, recent studies suggest that cancer survivors spend approximately 66% of their waking hours sitting, with some studies showing different levels of ST among cancer groups. Our study directly compared ST among three cancer groups. **Methods:** A stratified random sample of 2062 breast, prostate and colorectal cancer survivors diagnosed between 2003 and 2011 was identified by the Nova Scotia Cancer Registry and mailed a questionnaire assessing ST separately for weekdays and weekends using the Sedentary Behaviour Questionnaire (SBQ), social-cognitive constructs from the theory of planned behavior (TPB), and demographic and medical variables. ANOVAs were used to determine differences in continuous measures and Chi-squares were used for categorical variables. **Results:** 741 completed surveys were analysed. Overall, we found that cancer survivors accumulated 6.6 hours ($SD = 3.08$) on a typical weekday and 6.4 hours ($SD = 2.89$) on a typical weekend day. Weekday ST was trichotomized into 0-5.0 hours, 5.1-10.0 hours and >10 hours, while weekend ST was collapsed into 0-4.0 hours, 4.1-7.0 hours and >7 hours. A significant difference was found among cancer groups for weekday ST with breast cancer survivors having higher ST than prostate or colorectal cancer survivors (46% vs 27% vs 27%, $p = .015$). **Conclusions:** Overall, participants in this study reported less ST than previous research among cancer survivors. This may be due to selection bias; in other words, we did not hide that we were conducting a survey primarily about PA among cancer survivors. Additionally, the use of self-report may have resulted in under-estimations of ST. However, we did find differences among the cancer groups that suggest targeting ST interventions may be warranted.

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B014

6:00 PM-7:00 PM

PSYCHOSOCIAL DETERMINANTS OF DECISIONAL CONFLICT AND ITS RELATIONSHIP TO COLONOSCOPY ADHERENCE

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There are several recommended colorectal cancer screening (CRCS) options. Decisional conflict about which option to choose could deter CRCS uptake. However, the determinants of decisional conflict and the association between decisional conflict and CRCS non-adherence are not well understood. To inform future intervention development, this study aimed to develop and test a model to understand the determinants of CRCS decisional conflict and the relationship between decisional conflict and colonoscopy non-adherence.

A cross-sectional survey was administered in December 2012 to adults, ages 50-75 years, living in six MN communities (adjusted response: 72.1%). Among white, non-Hispanic respondents, at average-risk for colorectal cancer ($N = 1,268$), the Theory of Triadic Influence was used to develop a structural equation model to examine and test the direct and indirect effects between psychosocial factors (e.g. colonoscopy barriers, confusion, self-efficacy), CRCS knowledge, CRCS options discussed, CRCS decisional conflict, and colonoscopy non-adherence.

Increases in CRCS confusion and perceived colonoscopy barriers were associated with an increase in decisional conflict (standardized total effects = 0.39 and 0.42, respectively, both p -values < 0.01). Discussing more CRCS options and greater CRCS knowledge were associated with a decrease in decisional conflict (standardized total effects = -0.17 and -0.11, respectively, both p -values < 0.01). Increasing CRCS decisional conflict was associated with non-adherence to colonoscopy recommendations (standardized total effect = 0.14, $p < 0.01$) and was mediated by CRCS self-efficacy and intention. The final model explained 40.5% and 45.9% of the variability in decisional conflict and colonoscopy non-adherence, respectively.

Decreasing colonoscopy barriers and CRCS confusion, and increasing the number of CRCS options discussed are promising targets to decrease CRCS decisional conflict, which could in turn reduce non-adherence to colonoscopy by increasing self-efficacy and intention.

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B015

6:00 PM-7:00 PM

QIGONG / TAI CHI EASY FOR FATIGUE IN BREAST CANCER SURVIVORS: RATIONALE AND DESIGN OF A RANDOMIZED CLINICAL TRIAL

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Breast cancer survivors (BCSs) often report fatigue and other associated symptoms that persist for months, even years, after treatment ends. Despite a growing body of evidence for meditative movement (MM) practices (e.g., Tai Chi, Yoga, Qigong) to improve symptoms among BCSs, few studies have explored using Qigong/Tai Chi Easy (QG/TCE) to reduce fatigue. Additionally, few studies have examined the biological mechanisms through which fatigue may be reduced using QG/TCE. **The purpose of this presentation** is to describe the study design for a novel approach to reduce persistent fatigue in BCSs. **We will conduct a RCT** to compare the effects of a standardized and pre-tested QG/TCE intervention to "sham" Qigong (SQG) and educational support (ES). This novel "sham" control group (movements similar to QG/TCE, but without the attention to breath and meditative focus) is intended to differentially identify the effects of the unique aspects of MM on fatigue in BCSs. The ES simply controls for exposure to attention and social support effects. We will recruit 250 fatigued, post-menopausal female patients diagnosed with breast cancer (stage 0-III), between 6 months and 5 years past primary treatment. Women will be randomized to QG/TCE, SQG, or ES. The primary outcome (fatigue), secondary outcomes (associated factors), an exploratory outcome (peripheral neuropathy), and biomarkers of inflammation (IL1ra, IL6, TNF α and INF γ) and HPA dysregulation (diurnal cortisol) will be assessed at baseline, post-12-week-intervention and 36 week post-intervention. **We hypothesize that QG/TCE** will reduce fatigue in BCSs experiencing persistent cancer-related fatigue more than SQG and ES. In addition, we hypothesize that QG/TCE will improve factors associated with fatigue, (i.e., sleep quality, anxiety, depression, cognitive function) in the QG/TCE group more than SQG and ES. Findings from this study may reveal the effects of the unique aspects of MM (namely QG/TCE) on fatigue in BCSs, and contribute to the understanding of biological mechanisms of these practices to improve symptoms among BCSs.

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B016

6:00 PM-7:00 PM

QUESTIONS REGARDING LIFE EXPECTANCY AND ADVANCED CARE PLANNING DO NOT CAUSE DISTRESS IN ADVANCED CANCER PATIENTS

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Context: Patients with advanced cancer need a good understanding of prognosis and end of life (EOL) treatment options to make informed care decisions. Patient-physician communication regarding prognosis and EOL treatment options is associated with, 1) increased understanding of terminal status, 2) preference for comfort care over treatment aimed at life-prolongation, 3) less use of burdensome and intensive treatment near EOL, and 4) better patient and caregiver quality of life (QOL). However, physicians do not consistently initiate EOL discussions with advanced cancer patients. Physicians may avoid these discussions because of concerns about inducing psychological distress. The goals of this study were: 1) to describe patient perception of prognosis, 2) describe extent of discussions of EOL care, and 3) assess patient distress associated with answering questions regarding prognosis and EOL discussions. **Methods:** As part of a larger longitudinal study examining goals in patients with advanced cancer, 62 patients with advanced lung and gastrointestinal (GI) cancer were interviewed. Patients were asked to estimate their chance of surviving 12 months and if they had an EOL discussion with their physician. They were then asked to rate how distressing answering these questions were. **Results:** Nearly half the patients estimated their chance of 12 month survival at 100% (N = 38, 49.4%). Only a small portion of patients reported having had an EOL care discussion with their physician (N = 6, 7.6%). The majority of patients felt the interview caused “no distress at all” (N = 48, 77.4%), while a small number experienced “a slight amount of distress” (N = 10, 16.1%), and a minority experienced “a moderate amount of distress” (N = 4, 6.5%). Further, a large portion of the sample found the interview “very helpful” (N = 16, 25.8%) and “somewhat helpful” (N = 30, 48.4%). The remaining patients felt the interview as “neither harmful nor helpful” (N = 16, 25.8%). **Conclusion:** The majority of patients with advanced lung and GI cancer are not distressed by questions regarding prognosis and EOL care planning. Most patients find discussions regarding EOL concerns helpful and not harmful. Patients may benefit from physician communication regarding EOL such that EOL discussions should not be avoided due to concerns about inducing patient distress.

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CITATION AWARD WINNER

B017

6:00 PM-7:00 PM

RACIAL DISPARITIES IN EARLY-STAGE BREAST CANCER PATIENTS' QUALITY OF LIFE OVER TIME

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Racial disparities in the diagnosis, treatment, and survival of breast cancer patients are well known. While patients diagnosed with ductal carcinoma in situ (DCIS) and early-invasive breast cancer (EIBC) receive similar treatments, they report differential improvements in quality of life (QOL) over time. Little is known about whether racial disparities exist in QOL change over time. We interviewed 540 patients (33.1% DCIS, 66.9% EIBC [51.5% Stage I, 15.4% Stage IIA]; mean age 58, range 40-89; 18.9% Black) a mean 6 weeks (T1), and 6 (T2), 12 (T3), and 24 (T4) months after definitive surgery. We used repeated measures analysis of covariance to examine changes in QOL over time by race (White, Black) for each of the eight RAND 36-item Health Survey 1.0 subscales. We adjusted each model for cancer stage (DCIS, EIBC) and controlled for factors significantly associated with QOL at T1 (age, marital status, education, depression history, BMI, comorbidity, surgical side effects, social support, menopausal symptoms). Significant interactions between race and time were observed in emotional wellbeing (EWB) and fatigue (each $p < .05$); Black patients experienced a decline in EWB and little change in fatigue, whereas White patients reported an increase in both EWB and fatigue over time. Black patients also reported worse general health, social and physical functioning, EWB, and greater limitations due to emotional problems (each $p < .05$) compared with White patients across all interviews, and these differences between White and Black patients at T4 met criteria for minimally important differences. Physical functioning, role limitations due to emotional health problems, and general health improved over time (each $p < .05$) across all patients. We observed clinically important racial disparities over time after adjusting for cancer stage and other clinical, demographic, and psychosocial factors in early-stage breast cancer patients. Future research should investigate reasons for these racial disparities in QOL outcomes to help inform the design of interventions to reduce them.

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B018

6:00 PM-7:00 PM

RANDOMIZED CONTROL TRIAL OF A SELF-MANAGEMENT ADHERENCE INTERVENTION IN LATE-STAGE HEAD AND NECK CANCER

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Objective and Patients Pharyngeal and laryngeal cancers are highly curable; however survivors are at high-risk for long-term swallowing dysfunction due to radiation encompassing key swallowing structures. Swallowing exercises during radiation can minimize dysphagia, but adherence is low (14%). To address adherence, we tested an intervention based on Leventhal's theory of Self-Regulation. **Methods** Patients with stage 3 – 4b pharyngeal or laryngeal cancer were eligible and recruited prior to beginning radiation/chemoradiation at M. D. Anderson Cancer Center. Using adaptive randomization, patients were randomized to either receive a weekly 10-session Self-Regulation intervention, or to enhanced usual care (clinical coordination with speech pathology services throughout radiation). Patient illness perceptions, coping, pain, fatigue, and swallowing function were assessed at baseline entry into the study and at 6 weeks after the end of radiation. Adherence to swallowing exercises, normalcy of diet and tube-feeding were assessed at 6 weeks post-radiation. **Results** The accrual rate from a cohort of 325 identified patients was 88% and the overall retention rate was 84% (n=263; intervention retention, 97%). Controlling for demographics, tumor stage, concurrent chemotherapy during radiation and disease site, patients who were randomized to the adherence intervention reported that they were significantly more adherent to the preventive swallowing exercises compared to controls ($p=.0014$; n=263). Satisfaction ratings for the intervention were high (86% gave it the highest rating). Follow-up data at 6 months and 1 year indicate that PREPARE positively impacted swallowing-related outcomes. Mediation analyses for self-management constructs are ongoing and will be reported at the annual meeting. **Conclusion** These effect sizes indicate that PREPARE's adherence program has the potential to lead to truly transformative outcomes in the prevention of dysphagia.

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B019

6:00 PM-7:00 PM

RECRUITMENT IN CANCER SETTINGS, WHAT HELPS, WHAT HINDERS?: A QUALITATIVE STUDY OF HEALTH CARE PROVIDERS' VIEWS.

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Background: There is a significant gap between the number of potential participants and the actual recruitment of participants, therefore maximizing participant recruitment is a priority for health care investigators. Some populations, such as family caregivers (FCs) to cancer patients, may be more difficult to access. Involvement of health care providers (HCPs) in the recruitment process can be a potential mechanism to increase recruitment of FCs. However, the assistance of clinicians and subsequent enrolment of participants may be hindered by research, personal, and institutional factors. **Purpose:** The purpose of this study was to explore HCP views on barriers and facilitators to recruitment of FCs to a previously conducted survey at hospital based out-patient cancer center. **Methods:** We conducted a descriptive qualitative study, using semi-structured face-to-face interviews, to explore HCP views on their role in the overall recruitment process. HCPs were included if they had been involved in the recruitment of family caregivers (FCs) to a previously conducted one-time survey. Interviews were recorded and then later transcribed verbatim. Data was analyzed using thematic analysis. **Results:** n=11 HCPs (n=5 nurses, n=6 physicians) agreed to be interviewed. The main themes that emerged from the interviews were the following. Facilitators to participating in recruitment included: 1) ongoing communication, primarily face-to-face contact, between researchers and HCPs; 2) well thought out research question; 3) research that has potential to improve care for patients and families; 4) consideration of HCP workload; 5) being aware of clinic processes and patient priorities; 6) fostering interpersonal relationships and rapport with HCPs; 7) researchers enthusiasm for the research topic. Barriers included (1) lack of attention to potential facilitators; (2) HCP workload; and (3) busyness in clinic. **Conclusions:** Successful recruitment in cancer care settings is possible if researchers are diligent in study design and execution. HCPs are interested in research that benefits patients and FCs, and in helping to reach participants that are difficult to access. HCPs are willing and enthusiastic to participate in research, however they need to be supported by researchers in the recruitment process.

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B020

6:00 PM-7:00 PM

REKINDLE, A WEB-BASED PSYCHOSEXUAL RESOURCE, REACHES REMOTE, REGIONAL AND METROPOLITAN CANCER SURVIVORS AND PARTNERS

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Background: Changes to sexual wellbeing can lead to psychological distress and poorer quality of life for cancer survivors and partners. Psychosocial and pharmaceutical interventions have proven benefit in reducing this burden but are not accessed by most survivors and partners. Rekindle is a theoretically guided, tailored and adaptive web-based psycho-educational resource to address sexual concerns for cancer survivors and their partners, currently being evaluated in a randomised controlled trial. Recruitment applied multi-pronged approaches including in person, online and social media outlets. **Aim:** to assess the proportion of Rekindle participants from a range of Accessibility/Remoteness Index of Australia (ARIA) categories. **Methods:** People consenting to the Rekindle study provided postcodes at time of study entry. Individual patient postcodes were categorised as: major cities, inner regional, outer regional, remote, very remote using an online tool provided by Psycho-Oncology Cooperative Research Group (pocog.org.au). Rates of participation in Rekindle were compared to available Australian Bureau of Statistics (ABS) data reporting populations in capital cities and states. **Results:** A total of 210 participants were included, postcodes were identifiable for 191 (91%). Of those with postcodes, 121 (63%) were from major cities, 45 (24%) inner regional, 25 (13%) outer regional, and none from remote or very remote locations. This is slightly lower than the ABS reported 66% of Australians living in capital cities. States were identified for 195 participants, representation in Rekindle vs State population was: ACT/NSW 44 vs 34%, Vic/Tas 30% vs 27%, QLD 15% vs 20%, SA 6% vs 7%, WA 3% vs 11%, NT 3% vs 1%. **Conclusions:** Rekindle offers accessible, tailored, and private psychosexual support to cancer survivors and their partners. Recruitment to the Rekindle Study reflects Australian population patterns, with almost two thirds coming from major cities. Enrolment from consumers in regional areas highlights the potential for Rekindle to serve as a model for service delivery and integration of support services into standard care, particularly for those living far from treatment centres.

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B021

6:00 PM-7:00 PM

ROLE OF ETHNICITY IN DISTRESS RELATING TO QUALITY OF LIFE AMONG CANCER CAREGIVERS

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Family caregivers of cancer patients report elevated distress, particularly around the time of diagnosis, which has been linked to poor quality of life (QOL: physical and mental health). Differences in cultural values and expectations may also influence these outcomes. However, whether relations between types of distress such as PTSD symptoms, generalized stress, or caregiving stress differ with mental and physical health by ethnicity is unknown.

Family caregivers of colorectal cancer patients participated in the study ($N=91$; 63% Hispanic; age $M=47$ years; time since diagnosis $M=3$ months). Self-reported ethnicity, PTSD symptoms (hyperarousal, intrusive thoughts, avoidance: IES), general mood disturbance (POMS), and caregiving stress (Pearlin Stress Scale) were predictors. Self-reported mental and physical health status (MOS SF-12) were outcomes. Age and household income were covariates.

Caregivers reported substantially heightened levels of PTSD symptoms (21% reported clinical-level symptomatology), general mood disturbance, and caregiving stress, compared with population norms. Multivariate general linear modeling revealed greater hyperarousal ($B=-3.45$, $p=0.05$) and general mood disturbance ($B=-1.47$, $pp=0.01$).

Findings suggest cancer caregivers displaying elevated general distress and cancer-specific posttraumatic stress-like symptoms during early phases of survivorship should be given evidence-based psychosocial services to prevent compromised mental and physical health. Findings also suggest interventions targeting reducing physical health disparities among cancer caregivers need to be tailored by differential implications of general distress caused by cancer in the family by the caregivers' ethnicity. Longitudinal analyses with ethnically diverse samples are also needed to determine the extent to which caregivers' subjective distress shortly after diagnosis may predict long-term health outcomes.

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B022

6:00 PM-7:00 PM

ROLE OF ONLINE RESOURCES IN PROSTATE CANCER SELF-MANAGEMENT: PERSPECTIVES OF PATIENTS, CAREGIVERS, AND HEALTHCARE PROVIDERS

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Self-management (SM) of prostate cancer (PC) by patients and their caregivers (CG; partners, family) is linked to health outcomes. The availability and use of online resources (OR) for SM continues to grow, but the perceived role of these resources has not been fully examined. The study aim was to identify and compare the perceptions of patients, CG, and healthcare professionals (HCP) about the role of OR for PC SM. Participants ($N=27$) with a range of experience and comfort using the internet were recruited for semi-structured telephone interviews. Interviews were recorded, transcribed, and analyzed using constructivist grounded theory. Patients ($n=16$), CG ($n=5$), and HCP ($n=6$) generally had positive perceptions about OR for PC SM. Two primary SM roles emerged: information and peer support. OR were perceived to be important to learn about PC (e.g., treatments, symptoms, side effects), facilitate decisions, and prepare for and follow up on medical appointments. Patients valued OR for connecting with other patients and HCP, and reducing feelings of isolation. HCP suggested CG may also benefit from online support. Identified information gaps include advanced PC and end-of-life planning. Many patients were reluctant to replace their existing system for recording symptoms and appointments with an OR, citing inconvenience, age/generation, and lack of comfort with technology as reasons. CG used OR primarily to address patient needs, rather than personal needs. HCP viewed OR as important for addressing sensitive topics (e.g., erectile dysfunction) and replacing HCP as providers of basic information, but raised concerns about OR overuse. Patients, CG and HCP reported that OR could improve, supplement, and in some cases, replace medical appointments. OR offer the possibility of efficiencies in PC SM and more empowered and engaged patients. Addressing information gaps may facilitate PC SM. Perspectives of patients, CG, and HCP about OR about PC SM have not been collectively gathered and considered. Results of this study may help inform the design and content of OR for PC SM.

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CITATION AWARD WINNER B023

6:00 PM-7:00 PM

SEDENTARY BEHAVIOR, FATIGUE AND QUALITY OF LIFE AMONG BREAST CANCER SURVIVORS

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In the early part of the 21st century, sedentary behavior (sitting time) has been recognized as an independent risk factor for chronic diseases. Many cancer survivors report large amounts of sitting time during and after their treatment. Examining the association between sedentary behavior and psychosocial well-being may offer a new avenue to improve cancer recovery. Our randomized controlled trial demonstrated that a peer-delivered exercise intervention significantly increased breast cancer survivors' moderate-to-vigorous exercise at 12 and 24 weeks. 76 survivors (mean age=55.6 years) were randomized to receive either a 12-week exercise intervention or a control condition delivered via phone by volunteers. In secondary analyses, we examined survivors' sedentary behavior, fatigue and quality of life (QOL). At baseline, 12 weeks and 24 weeks, we assessed participants' sitting time using self-report (7 Day Physical Activity Recall) and objective (accelerometer) measures; fatigue (FACT-F) and QOL (FACT-B). We used mixed effect longitudinal models to test intervention effects on mean sitting time (self-report and objective), while controlling for chemotherapy use and occupation (physically active vs. other). There were no significant intervention effects at 12 or 24 weeks (previously reported). Using longitudinal mixed effects models (controlling for group assignment), we tested whether baseline sedentary time (objective and self-report) predicted fatigue and QOL and 12 and 24 weeks. Surprisingly, those with greater self-reported sitting time reported higher QOL at 24 weeks ($p=.01$). Using a series of ANOVAs, we then tested whether sitting ≥ 9 hours/day (objective and self-report) at baseline was associated with changes in fatigue and QOL from baseline to 12 and 24 weeks. We found that survivors with sitting time ≥ 9 hours/day (objective) reported less improvement in QOL from baseline to 12 weeks ($p=.05$). Results indicate that the association of sedentary behavior and QOL in cancer survivors is mixed and is related to the type of assessment of sitting time. More exploration of the context of sitting time will be needed to inform intervention efforts to promote cancer recovery.

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B024

6:00 PM–7:00 PM

SKIN SELF-EXAMINATION BEHAVIORS AMONG MELANOMA PATIENTS

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Introduction: It is recommended that individuals diagnosed with melanoma conduct a thorough skin self-examination (SSE) on a regular basis. We examined the extent to which melanoma patients conduct thorough SSE, how they perform SSE, and their knowledge and self-efficacy regarding the examination. **Methods:** 176 individuals (61.5% response rate; 51.1% female; M age = 61.7 years) diagnosed with stage 0–III cutaneous malignant melanoma and from 3–24 months since surgical treatment completed a written or telephone survey regarding their SSE behaviors and associated factors. **Results:** Almost three-quarters (71.6%) of participants reported doing an examination in the past 2 months. Among these individuals, the face, chest, and front of arms and legs were examined most often. Participants were less likely to examine harder-to-see areas on the back of the body, the bottom of the feet, buttocks, genitals, and scalp. The mean number of body parts (out of 15 total) examined at least once in the past 2 months was 7.6 (SD = 6.0). Only 14.2% of participants reported examining all areas of the body at least once in the past 2 months. Few participants reported that they always use a full-length mirror (13.4%), hand-held mirror (11.3%), or have someone help (9.2%) when doing SSE. Only 3.4% of participants reported that they had ever completed a body mole map. Results of a multiple linear regression analysis indicated that having a higher level of education (p = .021), greater knowledge of the ABCDE rule for detecting potential melanoma (p = .030), higher SSE self-efficacy (p < .001), being shown how to do SSE (p = .049), and being shown what a suspicious mole would look like (p = .002) were all significantly associated with conducting more thorough SSE (i.e., examining more body parts thoroughly at least once in the past 2 months). **Conclusions:** Most melanoma patients do not engage in regular, thorough SSE, and when they do examine their skin they typically do not sufficiently utilize tools and techniques to facilitate a thorough examination and tracking of potentially suspicious moles. Efforts to promote SSE among melanoma patients should focus on increasing knowledge and self-efficacy and providing education about the why, when, and how of conducting SSE and mole tracking.

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B025

6:00 PM–7:00 PM

SLEEP QUALITY MEDIATES THE RELATIONSHIP BETWEEN CANCER-RELATED INTRUSIVE THOUGHTS & FATIGUE IN BREAST CANCER

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Objective: Women recently diagnosed with breast cancer (BCa) report cancer-related intrusive thoughts, fatigue, and poor sleep quality prior to the start of adjuvant therapy. The interrelationships among these variables have been less studied. This study tests the hypothesis that intrusive thoughts relate to greater fatigue through their influence on sleep quality in women with non-metastatic BCa in the weeks after surgery and before beginning adjuvant therapy. **Methods:** Women (N =147) with non-metastatic stage 0–III BCa were recruited 2–10 weeks post-surgery to participate in a psychosocial intervention prior to adjuvant therapy. Women completed the Impact of Events Scale (intrusion scale), a shortened 5-item inventory of the Pittsburgh Sleep Quality Index and the Fatigue Symptom Inventory (severity scale). Bootstrapping analyses (using 1000 bootstrapped samples) tested the model of sleep quality as the mediator of the relationship between intrusive thoughts and fatigue severity. **Results:** There was a significant indirect effect of cancer-related intrusive thoughts on fatigue severity through sleep quality when controlling for age, time since surgery, disease stage, type of surgery, education and income, b =3.3491, 95% CI [2.2421, 4.6055], with a large effect size, κ^2 =.3458, 95% CI [.2366, .4758]. **Conclusions:** In the weeks after surgery, sleep quality may explain the relationship between cancer-specific intrusive thoughts and fatigue severity above and beyond the physical effects of surgery, disease stage, and age in non-metastatic BCa patients. Future interventions targeting intrusive thoughts early in treatment may improve sleep quality, which in turn may improve fatigue levels.

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B026

6:00 PM–7:00 PM

SURVEILLANCE COLONOSCOPY AMONG COLORECTAL CANCER SURVIVORS IN APPALACHIAN TENNESSEE

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Background: Colorectal cancer (CRC) is the 3rd leading form of cancer death in Appalachian Tennessee. After curative treatment for CRC, surveillance colonoscopy according to recommended guidelines can prevent and detect life-threatening, late-stage recurrences. The likelihood of receiving surveillance colonoscopy after CRC is not the same for all CRC survivors; some survivors are significantly less likely to receive follow-up colonoscopy. This may be especially true in Appalachian Tennessee where colorectal cancer mortality is higher than the national average. Physical geography may be a significant barrier to surveillance colonoscopy according to recommended guidelines; Appalachian Tennessee is a rural, isolated, mountainous area. This region is also severely economically distressed and together this creates a host of barriers for survivors. There is very little evidence regarding CRC survivors' receipt of surveillance colonoscopy in Appalachian Tennessee, nor has there been published evidence regarding the relationship between survivors' geographic location and surveillance. **Methods:** CRC cases were from drawn from a regional tumor registry in East Tennessee and surveillance was abstracted from the medical record (N =686). Frequency of surveillance colonoscopy according to recommended guidelines is reported and hazard ratios were calculated to test the relationship between zip code and time to surveillance. **Results:** In this sample, 67.4% survivors did not receive surveillance colonoscopy. Of those who received surveillance colonoscopy, only 8% received follow-up according to recommended guidelines. Rural zip codes were associated with not receiving surveillance according to recommended guidelines. **Conclusions:** CRC survivors in this sample from Appalachian Tennessee are receiving surveillance according to guidelines at rates significantly lower than the national average. CRC survivors residing in two rural counties were at the greatest risk for not receiving timely surveillance. These findings suggest a need for interventions that can penetrate geographic-related barriers to lifesaving surveillance according to recommended guidelines.

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B027

6:00 PM–7:00 PM

ADHERENCE TO A TELEHEALTH PROTOCOL DESIGNED TO PREVENT READMISSION FOR PATIENTS WITH CONGESTIVE HEART FAILURE

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Background. Congestive heart failure (CHF) is the leading cause of hospital readmissions. While telehealth protocols hold promise for reducing CHF readmissions, these protocols can be complex and thus poorly utilized by individuals at particular risk for readmission. Therefore, we assessed adherence to a new telehealth protocol designed to prevent readmission among patients with CHF. **Methods.** We recruited fifty patients with CHF from a regional managed care organization. We adapted an established standardized CHF self-care protocol and transformed it onto a telehealth platform. Patients were provided with computer tablets and software designed specifically for a high-risk patient base with poor health literacy. The specialized software allowed for (1) real time reporting of health status, (2) an interface engaging patients in CHF self-care, and (3) HIPAA-compliant video conferencing to enable frequent contact. Adherence was defined as the percentage of days of the 120-day protocol on which the patient successfully completed the intervention protocol. **Results.** Nearly all (96%, N =48) patients recruited into the intervention completed the full 120-day protocol. Nearly half (40%, N =19) lived alone and nearly half (46%, N =22) were at high risk for readmission based on standardized measures. Median protocol adherence for the complete 120 day period was 96% (IQR=92–98%). Wilcoxon rank-sum tests showed that adherence was not different across any of the 7 key patient characteristics (sex, race, age, living situation, depression, cognitive ability, and risk for readmission). Median adherence was at least 93% in every subgroup, and adherence did not significantly decrease over the course of the 120-day intervention. **Conclusions.** Combining innovative technologies with best practices for at-risk populations, telehealth programs can be developed that maintain excellent adherence, even for individuals at high risk for readmission such as those with depression, poor cognitive ability, and poor social support.

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B028

6:00 PM-7:00 PM

ANXIETY IS ASSOCIATED WITH AN INCREASED RISK OF EXERCISE-INDUCED ISCHEMIA IN WOMEN WITHOUT A HISTORY OF CAD, BUT NOT IN MEN

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Introduction: Once women have been diagnosed with CAD, they have been shown to experience worse outcomes relative to men. This has been suggested to be due to delays associated with diagnosis and treatment onset. Reasons for these delays are not well understood, but may be influenced by the presence of psychiatric (i.e., anxiety and mood) disorders, which are more prevalent in women in the general population and associated with worse CAD outcomes. Our study aimed to examine sex differences in the prevalence of psychiatric disorders in patients with and without a history of CAD referred for diagnostic exercise stress tests, and associations with myocardial ischemia as evidence of CAD. **Methods:** A total of 2342 patients (n=760 women) with and without a history of CAD referred for single photon emission computed tomography (SPECT) exercise stress tests (standard Bruce Protocol) underwent a psychiatric interview (PRIME-MD) to assess current anxiety and mood disorders on the day of exercise stress test. Reversible perfusion defects were assessed using SPECT, with odds ratios calculated from logistic regressions to calculate the risk of sex and psychiatric disorders on ischemia presentation. All analyses were adjusted for age, CAD history, exercise performance (METs), smoking, ischemic medication use and number of medications. **Results:** Women had a higher prevalence of psychiatric disorders than men ($p < .001$). There was also a significant sex by anxiety disorder interaction on ischemia in those without a history of CAD ($p = .015$): women with an anxiety disorder were 75% more likely to exhibit ischemia during exercise compared to women without an anxiety disorder (OR = 1.75, 95% CI = 1.05 – 2.89). These effects were not observed among men, and there were no effects observed for mood. **Conclusions:** Our findings indicate a higher prevalence of psychiatric disorders among women who present for stress testing. Anxiety in women was also associated with ischemia presentation in those without a history of CAD. Results suggest that anxiety symptoms, many of which overlap with those of CAD (e.g., fatigue, palpitations, shortness of breath) might mask those of CAD and contribute referral and diagnostic delays among women. Future studies are needed to confirm this hypothesis.

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B029

6:00 PM-7:00 PM

AUTONOMIC EXPRESSION TO NEGATIVE EMOTIONS: THE CONTEXT MATTERS

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Health professionals have long been interested in understanding the physiological responses and health effects of negative emotional states. Several models have been developed to explain the characteristic autonomic patterns of such states. In particular, fear has been extensively studied as an important organismic response to threatening events in the environment, and the physiological components of fear have been mapped out in detail. Sadness, which has received less research attention, may also be viewed as an adaptive response. Although there has been research that has identified different physiological systems that lead to varying fear responses, there has been little research mapping out whether multiple stimuli designed to elicit the same emotional state will cause the same physiological responses. The current study included three separate inductions for eliciting fear and sadness (i.e., film, personalized recall, standardized imagery). Sixty-four undergraduate students had blood pressure (BP), electrocardiography (ECG), and electrodermal (EDA) measures collected during the emotion inductions. Although each emotion induction was reported as effective in eliciting the targeted emotion (all p -values were less than .001), the physiological responses were varied. Univariate analyses were conducted on the physiological variables for all fear and sadness manipulations. Repeated measures ANOVA revealed directional differences in EDA, BP, and ECG responses to stimuli depending on how each emotion was elicited (all significant differences were at p -values were less than .05). It appears that although research has been used to demonstrate strong support for multivariate approaches to patterning of basic emotions, the univariate analyses from the current study can be used to suggest that the mode by which negative emotions are elicited holds important implications for which autonomic systems will be responsive. Possible health consequences, such as the effects of long-term recruitment of alpha- or beta-adrenergic activity, are further discussed.

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B030

6:00 PM-7:00 PM

CONTROLLING FOR CAFFEINE IN CARDIOVASCULAR RESEARCH: HEART RATE, HRV, & BLOOD PRESSURE RESPONSES POST-6-HOUR ABSTENTION

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Caffeine, the world's most widely used drug, affects cardiovascular reactivity (CVR). Yet, wide variability exists in pre-study caffeine intake control in CVR research. This study aimed to identify a minimal abstinence time in regular coffee drinkers whereby CVR is unconfounded by caffeine; 6 hours was hypothesized (average half-life of caffeine). 21 subjects (mean age=20, 57% Female) completed a repeated measures study involving cold pressor and memory tasks. Caffeinated coffee was given on one testing day and decaffeinated coffee on a second day. Heart rate (HR), high frequency heart rate variability (hHRV) and systolic/diastolic blood pressure (SBP, DBP) were acquired during baseline, task, and recovery epochs prior to coffee intake, 30 minutes-, and 6 hours post-intake. Task-baseline changes scores assessed reactivity. A 3-factor (condition, time in reference to coffee intake, task) repeated measures MANOVA revealed marginally significant effects of time ($p < .10$) and a significant condition x time x task interaction ($p < .05$) for HR, with lower reactivity at time 2. There were significant differences in HR change between times 1 and 2, and 2 and 3 ($ps < .05$) but not between times 1 and 3. For hHRV, a marginally significant condition x task interaction ($p < .10$), with greatest increases on the caffeine day at time 2 for the memory task, which supports literature suggesting vagally mediated increases in HRV with moderate doses of caffeine. SBP results indicated time x task and time x task x BMI interactions ($p < .05$) with greatest changes during the cold pressor task and at time 1. For DBP, subjects showed a marginally significant effect of time and a time x BMI interaction ($ps < .10$), with greater reactivity in the caffeine condition versus the decaffeinated condition but greatest reactivity at time 1. Unexpected pressor findings may have resulted from BMI interactions and possible effects of initial experiences of stress on both days. Overall, results support time-based effects of caffeine on CVR and suggest the adequacy of a 6-hour abstinence in controlling for caffeine-elicited changes in HR.

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B031

6:00 PM-7:00 PM

EXPLORING PSYCHOLOGICAL MECHANISMS OF CARDIOVASCULAR DISEASE RISK AMONG BLACK WOMEN

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Black women are disproportionately affected by cardiovascular disease (CVD). While chronic stress has been identified as a key contributor to CVD risk, research has not identified the specific mechanisms through which stress influences CVD risk among Black women. Research suggests that in response to stress, Black women who internalize the Strong Black Woman (SBW) Schema engage in high effort coping, avoidant coping, postponement of self-care, and other maladaptive health behaviors and experience premature health deterioration. However, it is important to consider that internalization of the SBW Schema may exert differential effects on the physiological profiles of Black women due to varied interpretations of experiences filtered through the Schema and differences in emotion regulation. As emotion regulation has a robust impact on cardiovascular outcomes, individual differences in internalization of the SBW Schema may be explained by this related construct. Given that limited research has examined the impact of psychological factors associated with CVD risk in Black women, the current study examined relations between CVD risk, emotion regulation, and the SBW Schema. Results of exploratory analyses revealed relationships among psychological variables, such that greater endorsement of SBW Schema characteristics (obligation to manifest strength, dedication to care, independence, and emotion suppression) was related to greater overall difficulties with emotion regulation. Additionally, greater dedication to care predicted lower CVD risk and greater emotional suppression predicted higher CVD risk. The relationship between emotional suppression and CVD risk was mediated by emotion regulation. Results stand to inform future research and culturally specific prevention strategies to decrease CVD risk in Black women.

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B032

6:00 PM-7:00 PM

HEART RATE VARIABILITY AND HEMOGLOBIN A1C AMONG POLICE OFFICERS.

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PURPOSE: Heart rate variability (HRV) has been shown to be an important health marker for subclinical cardiovascular disease. The aim of this cross-sectional study was to examine associations of hemoglobin A1C with heart rate variability among Buffalo, NY police officers. **METHODS:** A total of 365 Buffalo, New York police officers had complete data on HRV and hemoglobin A1C. Electrocardiogram data were measured and processed according to standard methods for measurements and analysis of HRV. A fasting blood sample was obtained from all participants by a trained phlebotomist and sent for testing to Kaleida Health Center for Laboratory Medicine. Linear regression models and analysis of covariance were used to examine associations between hemoglobin A1C and HRV. **RESULTS:** In our population mean age was 41 years, 75% were male and 80% were Caucasian. There was a statistically significant inverse association between hemoglobin A1C and high frequency HRV among female officers only ($p=0.004$). We did not observe any associations among males ($p=0.065$). Adjustments for age, body mass index, ethnicity and shift work did not alter the results (females: $p=0.005$; males: $p=0.502$). **CONCLUSION:** This study may be limited by its cross-sectional design and small sample size. Our findings revealed an inverse and independent association between hemoglobin A1C and HRV among female officers only.

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B033

6:00 PM-7:00 PM

HOW TO CREATE “ON FLEEK” MHEALTH INTERVENTIONS AND OTHER POINTERS FROM TARGET COLLEGE POPULATION

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Background: Poor health habits (i.e. inactivity, poor diet, and overweight) can develop during the college years, when the proportion of individuals with ideal cardiovascular health falls from 42% to 29%, making college a critical time to intervene. Understanding how this population perceives personal health and how best to encourage health enhancement is important to intervene effectively. **Methods:** Midwestern undergraduates ($n=18$) participated in focus groups ($n=4$) during the formative stage of a larger mHealth intervention study. A script was followed, asking participants their thoughts and opinions about health, technology, and college life. Groups were audio and video recorded, then transcribed. Two independent coders used inductive thematic as well as consensus and conformity analysis to analyze the data. **Results:** 15 females and 3 males, ages 18-22, participated in the groups. Common themes emerged including a belief that the best students are those with poorest health habits (do not sleep, poor hygiene, no physical activity) and thus, students compete to be the unhealthiest. Specific intervention themes emerged including the importance of message framing (i.e. “opportunities” rather than “reminders”), simple app design, and passive data collection modalities. Most participants admitted feeling comfortable sharing general information, but the majority would not want to share personal health information (e.g. weight, foods consumed, etc.) on social media. Three groups ($n=12$) agreed that comparing personal health behaviors would cause people to “feel bad” about their health. 87% who discussed priorities ($n=15$) agreed that academics were the primary priority during college and 89% of 2 groups ($n=9$) agreed that academics, student groups, and social lives interfered with healthy living at the university. **Conclusion:** The data suggest that future mHealth researchers targeting college populations should use social media thoughtfully, design simple and passive data collection mechanisms, and design intervention strategies that accommodate competing interests and motivations.

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B034

6:00 PM-7:00 PM

INFLAMMATORY MARKERS AND METABOLIC SYNDROME AMONG POLICE OFFICERS

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INFLAMMATORY MARKERS AND METABOLIC SYNDROME AMONG POLICE OFFICERS

Background: There is evidence that inflammation may be involved in the development of metabolic syndrome (MetSyn). This study aimed to examine cross-sectional associations between several inflammatory markers and MetSyn in police officers. **Methods:** Participants were 423 police officers from the Buffalo Cardio-Metabolic Occupational Police Stress (BCOPS) Study. Demographic and lifestyle information were obtained from self- and interviewer-administered questionnaires. Fasting blood samples were used to measure blood parameters for MetSyn and inflammation. MetSyn was defined by 2005 guidelines. For descriptive purposes, unadjusted and multivariable adjusted mean numbers of MetSyn components were obtained across quartiles of C-reactive protein (CRP), fibrinogen, and white blood cell (WBC) count using analysis of variance and covariance. Poisson regression was used to estimate the association between inflammatory markers and MetSyn and calculate the reported p -values. Models were adjusted for age, sex, race, smoking status and alcohol intake. **Results:** The association between CRP level and MetSyn was significant. After adjustment, mean number of MetSyn components increased with increasing quartiles of CRP level (0.9, 1.34, 1.85, 1.93, p -value < 0.001). No associations were observed for fibrinogen levels and WBC count with mean number of MetSyn components (multivariable adjusted p -values were 0.26 and 0.12, respectively). **Conclusions:** CRP levels were positively and significantly associated with MetSyn. This finding is in agreement with previous research. A future longitudinal study would provide stronger evidence of whether elevation of inflammatory markers precedes development of the MetSyn.

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B035

6:00 PM-7:00 PM

NEGATIVE AFFECTIVITY AND ITS RELATION WITH PHYSICAL QUALITY OF LIFE IN ACUTE CORONARY SYNDROME PATIENTS

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Patients that have suffered an Acute Coronary Syndrome (ACS) should adapt to numerous changes after their hospitalization discharge. The adaptation process to this diagnosis involves social, emotional and physical processes that affect Quality of Life (QoL). Studies have shown that QoL trajectories in ACS patients are influenced by emotional factors such as depression (Dickens et al, 2006; Lemos et al, 2013), anxiety (Moser et al, 2011) and anger / hostility (Chida & Steptoe, 2009). Dimensional models have proposed that these emotional factors are related with the existence of a latent component, negative affectivity (Clark, 2005; Posner et al., 2005; Watson, Clark, & Tellegen, 1988). To prove this hypothesis we took a sample of 168 patients (mean age 64; SD = 11.1) and follow them for 18 months. A confirmatory factor analysis showed that negative affect was confirmed as a latent factor that explains the common factor between anxiety, depression and trait anger in these patients (Chi square = 3.416; p = n.s.; CFI = .98, TLI = .96, RMSEA = 0.063, SRMS = 0.043). Additionally, this factor was found associated with the initial levels and the physical component of HRQOL (p < .01), as well as the rate of change (p < .05) in an multilevel model, adjusting for risk factors and patients age.

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B036

6:00 PM-7:00 PM

PROTECTIVE ROLE OF PHYSICAL ACTIVITY AND SLEEP DURATION IN STROKE RISK: ANALYSIS OF THE 2004-2013 NHIS

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Background: Current “one-size-fits-all” physical activity and sleep recommendations to reduce stroke risk are unrealistic to follow with many social obligations. The current study utilized Bayesian Belief Network analysis, a type of machine learning analysis, to develop idiosyncratic profiles of the intensity and frequency of physical activity and sleep duration that reduce probability of stroke. **Method:** Analysis was based on the 2004-2013 National Health Interview Survey (N=288,888). Bayesian Belief Network analysis (BBN) was used to model the omnidirectional relationships of sleep duration and physical activity to stroke risk. Factors considered included demographic, behavioral, health/medical, and psychosocial as well as sleep duration (short<7hrs., healthy=7-8hrs., and long>8hrs.), and intensity (moderate and vigorous) and frequency (times/week) of physical activity. **Results:** Of the sample, 48.1% were ≤45 years; 77.4% were White; 15.9%, Black/African American; and 45.1% reported <\$35K annually. Overall, the model had a precision index of 95.84%. Healthy sleep (7-8 hrs.) and vigorous leisure activity (30-60 minutes) three to six times per week overall had the lowest probability of stroke (1.18%). For all short sleepers and long sleepers, 60 minutes of vigorous activity, 6 times per week, had lowest stroke probability. Outside of these three profiles, we developed 32 idiosyncratic physical activity and sleep profiles that had a stroke probability lower than the U.S. national average of approximately 3%. **Conclusion:** Our findings revealed that contrary to national recommendations several profiles of sleep duration and physical activity may reduce stroke risk. This can lead to more tailored and personalized stroke prevention recommendations.

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B037

6:00 PM-7:00 PM

SATISFACTION WITH A MULTIDISCIPLINARY PSYCHOTHERAPY AND SOCIAL SUPPORT PROGRAM IN PATIENTS WITH VENTRICULAR ASSIST DEVICES

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Research shows that cardiac patients experience a high level of psychological distress. Little is known about the unique psychological needs of cardiac patients with advanced therapies such as ventricular assist devices (VAD). Few psychological services have been designed and evaluated specifically for persons with VADS.

This study designed and piloted a group psychotherapy program for patients with VADs in a large multidisciplinary heart and lung care clinic which is part of an academic medical center. Anonymous surveys were distributed to group members at the completion of a 4 week psychotherapy program titled Cardiac Patients Linking Mind and Body (CLIMB). Patients ranged in age from 36-65, included both destination therapy and bridge-to-transplant patients, and experienced multiple medical and psychiatric comorbidities.

Participation in the survey was successful for 100% of group members. Members rated several aspects of CLIMB program participation. The most beneficial rating was for the social support patients received, followed by tools/strategies on how to communicate with family, friends, and caregivers about their medical and emotional state. Suggestions for program improvement included continuation for more sessions as well as increased discussion and focus on associated issues such as weight control and dietary control. Barriers to group attendance included finding transportation and time required to travel to group. Given limitations of transportation for patients with VADs, exploring telehealth methods of service delivery may be necessary to ensure patients can receive services offered. Clinic goals include incorporating patient feedback into future CLIMB interventions and collecting data on psychological outcomes.

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B038

6:00 PM-7:00 PM

STRATEGIES TO BOOST SELF-EFFICACY PROMOTE MULTICOMPONENT BEHAVIOR CHANGES

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Background: Self-efficacy, or confidence in the ability to carry out behavior to achieve a desired goal, is considered to be a prerequisite to behavior change. Prior research has shown that efforts to improve self-efficacy correlate with greater adherence to dietary guidance and exercise prescriptions or both combined. However, the role of self-efficacy for stress management and sleep improvement has not been well studied. We sought to examine the effect of empowerment strategies for self-efficacy on a multicomponent lifestyle intervention focusing on four behaviors: diet, exercise, stress management and sleep. **Methods:** Patients in the Integrative Cardiac Health Project Registry, a prospective cardiovascular health program were analyzed for behavioral changes using validated surveys, at baseline and one year, in the domains of nutrition, exercise, stress and sleep. Self-efficacy questionnaires (9 questions, maximum possible score 45 points) were administered at baseline and after the empowerment intervention, at 8 weeks. Behavioral data from baseline and one year were compared with paired t-tests. **Results:** Of 119 consecutive program completers, 98 (82%) showed improvements in self-efficacy. Data sets were normally distributed. For all patients, self-efficacy scores increased a mean of 5.8 ± 5.1 points. There were consequent improvements in dietary adherence (61.7 ± 8.3 to 67.1 ± 6.0 , $R=5.8$, $p < 0.001$), exercise minutes per week (156 ± 125 to 220 ± 163 , $R=3.4$, $p < 0.001$), stress scores (20.1 ± 9.1 to 17.2 ± 8.6 , $R=2.6$, $p=0.01$), sleep quality (7.1 ± 3.9 to 4.7 ± 3.5 , $R=4.8$, $p < 0.001$) and fatigue (4.3 ± 2.5 to 3.0 ± 2.2 , $R=4.2$, $p < 0.001$). These findings remained statistically significant after Bonferroni correction. **Conclusions:** These findings validate prior reports that efforts to empower self-efficacy improve adherence to diet and exercise regimens. This study extends the findings associating increases in self-efficacy to improvements in stress and sleep management. A boost to self-efficacy in a lifestyle intervention program produces substantial improvements in multicomponent behavioral outcomes.

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B039

6:00 PM-7:00 PM

STRESSED CAREGIVERS MAY BE AT HIGHER RISK FOR CARDIOVASCULAR DISEASE: PRELIMINARY ANALYSIS OF LIPOPROTEIN PROFILES

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Introduction Studies show that family caregivers, a highly stressed population, are at increased risk for cardiovascular disease (CVD). LDL cholesterol has traditionally been the principal component of cardiovascular risk assessment. Recently, Nuclear Magnetic Resonance (NMR) spectroscopy has become an established technique for quantifying both concentration (P) and diameter (Z) of serum lipoproteins, offering a more sensitive measure of risk. NMR lipoprotein profiles of family caregivers may better describe the early physiological changes associated with stress that lead to poor cardiovascular outcomes.

Hypothesis NMR measurements of HDL, LDL, and VLDL particle concentration and size in caregivers will suggest a different risk for CVD compared to controls. **Methods** The study followed hematopoietic stem cell transplantation family caregivers at 3 time points from pre-transplant through 6 weeks following initial hospital discharge and compared with age-, gender-, and race/ethnicity-matched controls. **Results** Caregivers (n=21) were primarily female (57%), married (95%) and non-Hispanic white (57%) with a mean age of 52 ± 11 years. Perceived Stress Scale-14 scores were much higher for caregivers than non-caregivers across all time points ($p < 0.001$). Traditional measures of total cholesterol, HDL, LDL, and triglycerides did not differ between groups ($p > 0.05$). NMR profiles showed that small LDL-P was greater (255 ± 35 nmol/L vs. 148 ± 36 nmol/L, $p = 0.04$) and LDL-Z size was smaller (21 ± 0.17 nm vs. 22 ± 0.17 nm, $p = 0.009$) in caregivers than non-caregivers, respectively. A time x group effect was present for large VLDL-P; caregivers had greater VLDL-P (5.02 ± 0.65 nmol/L vs. 2.73 ± 0.66 nmol/L, $p = 0.015$) at time point 3. VLDL-Z size was larger in caregivers (53 ± 1.2 nm vs. 50 ± 1.2 nm, $p = 0.045$). **Conclusions** While traditional measures were uninformative, NMR lipoprotein profiles suggest transplant caregivers have more pro-atherogenic particles, which could put them at greater risk for CVD compared to non-caregiver controls. More research is needed to elucidate the relationship between psychosocial stress and lipoprotein formation.

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B040

6:00 PM-7:00 PM

THE ALERT FOR AFIB PROGRAM IS A FEASIBLE AND ACCEPTABLE INTERVENTION TO PROMOTE EARLY DETECTION OF ATRIAL FIBRILLATION

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Background: Prevalence of atrial fibrillation (AF) will increase 2.5-fold by 2050, substantially adding to the human and economic burden of AF. Early detection of AF is critical for averting AF-related stroke and heart failure, but interventions to promote early detection of AF are limited. **Purpose:** To test the feasibility and acceptability of delivering a face to face cognitive behavioral intervention to promote knowledge, attitudes, beliefs, and behaviors that support early detection of AF. **Methods:** Participants age ≥ 65 years at risk for AF were recruited from primary care and cardiology clinics and randomized to receive an attention control session ($n = 40$) or intervention ($n=40$). The Alert for AFib Program intervention included individualized content describing AF, its consequences, personal risks for AF, symptom recognition, when to seek treatment, pulse-checking for irregularity, and an action plan that included daily pulse checking and logging. Participants completed the Knowledge, Attitudes, and Beliefs about AF Survey (KABAFS) at baseline, 1 and 2-months. Mean differences in KABAFS scores from baseline to 2-months between intervention and control groups were analyzed by independent t-tests. **Results:** Participants were 99% White, 63% ($n = 50$) male with a mean age of 71.8 ± 9.8 years. Feasibility data revealed: low attrition (2/40 in each group), high satisfaction with the intervention (83%), low study burden (97%), and 90% adherence to the pulse-checking behavior. A majority (69%) reported intent to continue pulse-checking beyond the study. Mean differences between baseline and 2-month scores for Knowledge ($3.03, \pm 3.4$ vs $0.711, \pm 3.5$, $p = .005$, $d = .67$) and Attitude ($6.45, \pm 3.5$ vs $1.97, \pm 2.8$, $p < .001$, $d = 1.4$) were greater in the intervention group. Beliefs scores were higher (1.34 ± 2.9 vs $.079, \pm 3.3$, $d = .4$) in the intervention group compared to the control group but did not achieve significance, $p = .08$. **Conclusions:** The Alert for Atrial Fib Program is a feasible intervention, well received by participants, and improved knowledge and attitudes that support early detection of AF. People ≥ 65 years were willing to adopt pulse-checking for assessment of heart rhythm. Results support future investigations of the effect of the Alert for AFib Program in larger and more diverse samples.

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B041

6:00 PM-7:00 PM

TRANSACTIONAL ASSOCIATIONS BETWEEN SOCIAL SUPPORT AND SELF-EFFICACY IN HEART SURGERY PATIENTS

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Coronary artery bypass grafting (CABG) is a frequently performed heart surgery (DeFrances, Hall, & Podgornik, 2007) which is commonly undergone in order to alleviate chest pain and improve quality of life. However, the surgery is not always successful in this regard. Self-efficacy and interpersonal variables, which influence coping strategies (Bandura, 1977; Thoits, 1995) and are linked to health outcomes (Benight, Swift, Sanger, Smith, & Zeppelin, 1999), affect the long-term success of these procedures (Contrada et al., 2008). Some research also suggests that self-efficacy and interpersonal variables such as social support and social strain are related to one another (Holahan & Holahan, 1987). An accurate understanding of the variables which influence CABG outcomes may inform interventions. Although research suggests that social support and strain and self-efficacy are related, this research has assumed that the relationship goes in one direction. However, there may actually be a transactional relationship between the constructs whereby, for example, self-efficacy and social support mutually influence one another. The purpose of the current study was to determine whether a transactional relationship exists between social support and self-efficacy or between social strain and self-efficacy, and assess whether these relationships predicts health outcomes in individuals undergoing CABG. Participants were 570 patients undergoing CABG. Analyses were run using structural equation modeling. Results did not support the existence of a transactional association between social support and self-efficacy. Results did, however, support the existence of a transactional relationship between social strain and self-efficacy. All paths in this transactional model were statistically significant ($p < .05$) and the overall model for the transactional model predicting post-surgical health fit well (TLI and CFI $> .90$ and RMSEA $< .06$). These results suggest that social strain and self-efficacy are transactionally related and that this relationship predicts post-surgical health. These results improve our understanding of the relationships between self-efficacy, interpersonal relationships, and health outcomes. This improved understanding may eventually assist healthcare providers in delivering more tailored care that could potentially lead to improved patient outcomes.

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B042

6:00 PM-7:00 PM

EXECUTIVE FUNCTION IS IMPAIRED IN ADOLESCENTS WHO EAT LATE AT NIGHT

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There is evidence to suggest that the summer months play a key role in significant weight gain among youth, particularly in low-income, urban minority girls (Baranowski et al., 2014). A potential factor leading to such weight gain is that bedtimes are much later in the summer as compared to the school year (Franckle et al., 2014), allowing youth to continue eating during evening hours. This late night eating may be particularly prevalent among individuals with compromised executive function, (i.e., inhibition and shifting). This study seeks to shed light on late night eating patterns among low-income adolescent girls and examine whether executive function is associated with these patterns.

Participants ($N=88$) were 10-14 year old girls participating in a community-based summer program. 63% of girls identified as African-American, 35% identified as Latino, and 2% of girls identified as Other. As part of a multi-method approach, height and weight were collected to calculate zBMI (according to CDC growth charts; Kuczmarski, et al., 2002), executive function (i.e., inhibition and shifting) was calculated using the Delis-Kaplan Executive Function System (D-KEFS) Color-Word Interference subtest, and nutritional intake and late night eating, (i.e., 25% or more of total daily calories consumed after 8pm; Allison et al, 2010), were calculated using 24-hour dietary recalls.

T-tests revealed that late night eating status did not differ by age ($p = .637$), zBMI ($p = .585$), or total caloric intake ($p = .858$). However, it did differ by race, such that African-American girls were more likely to be night eaters, $\chi^2 = 5.29$, $p < .05$. Additionally, executive function was impaired in night eaters. Specifically, night eaters scored lower on tasks of inhibition, $t(94) = -2.53$, $p < .05$, but showed no differences in score on tasks of shifting $t(93) = -.18$, $p = .85$.

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B043

6:00 PM-7:00 PM

FACTORS ASSOCIATED WITH RESILIENCE IN CHILDREN OF BLACK MOTHERS EXPERIENCING PHYSICAL AND EMOTIONAL ADVERSITIES

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Introduction: Maternal HIV and intimate partner violence (IPV) can lead to child emotional and behavioral problems. While childhood stressors related to maternal HIV and IPV may have devastating consequences, many children exhibit resilience. This study examined associations between parenting and child functioning among children of mothers experiencing these physical and emotional hardships. **Methods:** Participants included 111 Black/African American women, aged 22-60 ($M = 35.4$; $SD = 8.7$), who were the primary caregivers of a 6-14 year old child. Caregivers included children's biological mothers (86%), grandmothers (10%), and step-mothers/other relatives (4%). 78% of caregivers had a yearly household income below \$20,000. 43% of caregivers were HIV positive and 83% experienced IPV in the past 6 months. Resilience in children was assessed with the Strengths and Difficulties Questionnaire (prosocial behaviors and peer relationships subscales). Parenting practices were assessed with the Alabama Parenting Questionnaire (positive and negative parenting subscales). **Results:** A hierarchical multiple regression model predicting prosocial behaviors after controlling for SES was significant ($F(3,103) = 5.08$, $p = .003$, $R^2 = .13$). In the final step of the model, higher prosocial behaviors were associated with less negative parenting practices ($\beta = -.30$; $p = .002$). Similarly, a hierarchical multiple regression model predicting positive peer relationships after controlling for SES was significant ($F(3, 103) = 2.89$, $p = .04$, $R^2 = .08$). In the final step of this model, positive peer relationships were associated with less engagement in negative parenting practices ($\beta = -.24$; $p = .01$). **Discussion:** By identifying variables that can enhance resilience, this study offers unique insight into how the functioning of children whose mothers have experienced adversity may be improved via parenting practices. Irrespective of the type of adversity, researchers and clinicians should consider addressing parenting (a highly mutable factor) when developing and implementing interventions for families experiencing adversity.

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B044

6:00 PM-7:00 PM

FOOD ALLERGIES AND PSYCHOLOGICAL DISTRESS AMONG PEDIATRIC PATIENTS

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Background: Food allergies are increasingly common among children in the US. A number of studies from well-insured, tertiary care settings suggest a possible link between pediatric food allergies and poorer quality life and increased depression, yet little is known about the relationship between food allergies and symptoms of anxiety and depression in underserved populations. **Methods:** The current study investigated the prevalence of depressive and anxiety symptoms among an underserved, inner-city, low-income sample of 80 pediatric patients ranging from 5–12 years old with and without diagnosed food allergies, recruited from an outpatient clinic. Food allergy diagnoses were confirmed by physicians and defined as a clinical reaction to food in the last year and/or a skin test grade of 3 or higher for food allergen specific serum IgE level. The Children's Depression Inventory and Multidimensional Anxiety Scales for Children (MASC) were administered to children. **Results:** Children with food allergies reported significantly higher anxiety on the total MASC score ($p=0.02$), Humiliation/Rejection ($p=0.02$), and Social Anxiety ($p=0.02$) subscales than children without food allergies. **Discussion:** Food allergies may be associated with increased levels of some specific forms of social anxiety among underserved children. If these findings are replicated, screening for anxiety and/or other mental health problems may be indicated along with the development of programs targeting effective management of food allergies and anxiety.

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B045

6:00 PM-7:00 PM

FOOD ALLERGY MANAGEMENT AT SCHOOL: THE PERSPECTIVES OF INDIVIDUALS WITH FOOD ALLERGIES AND THEIR CAREGIVERS

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Because there is no cure for food allergies, individuals who suffer from them must consistently avoid allergenic foods to prevent a potentially life-threatening reaction—a particular challenge outside the home. In 149 semi-structured interviews, we explored the social and behavioral challenges faced by individuals with food allergies and their families. Interviews were transcribed and analyzed using NVivo 10 and an iterative approach. All but seven participants discussed challenges faced at school, ranging from nursery to graduate school. Overall, participants reported on dramatically varied school experiences, ranging from highly supportive, to indifferent, to hostile school policies, practices, and environments. We found: 1) Prevention-oriented policies were more common in pre-schools and elementary schools than in middle and high schools—though older students experience the highest risk for adverse events, including fatal anaphylaxis. 2) While food allergy bullying was common, participants also often described positive peer interactions, including intensive engagement, support and advocacy for young people with food allergies. 3) Both children with food allergies and their parents engaged in diverse and nuanced coping strategies, ranging from initiating staff training in food label-reading and epinephrine administration, to advance planning of meals and snacks, to provision of allergy-safe alternative foods for parties and field trips, to monitoring the allergy management practices of cafeteria staff. Parents saw formal school policies as limited in scope (e.g., nut-free lunch tables) and inconsistently implemented.

Given that 8% of US school children suffer from food allergies, and that students spend an average of seven hours per day at school—where they are likely exposed to food—these findings demonstrate the need for evidence-based guidelines and policies to facilitate safer food allergy management at schools.

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B046

6:00 PM-7:00 PM

ILLNESS REPRESENTATIONS OF PERTUSSIS AND PREDICTORS OF CHILD VACCINATION AMONG MOTHERS IN APPALACHIAN REGION

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Background: Vaccine preventable diseases are making a comeback in the US. However, the extant literature lacks descriptions of illness representations of vaccine preventable diseases and their utility in understanding vaccine utilization. **Objective:** To examine the illness representations of pertussis and association of these representations with child vaccination. **Methods:** An online survey was conducted of 160 mothers of children < 3 years in the Appalachian state of West Virginia, which has no legal exemptions from vaccination. An open ended question assessed the illness representation of pertussis and responses were analyzed according to the Common Sense Model. Backward logistic regression examined associations with child's up-to-date vaccination status (UTD) and mothers' future vaccination intentions. **Results:** Participants were predominantly White (94.4%) and married (86.9%). Some children (5.0%) had received no vaccination, 15.0% were not UTD, and 13.8% reported no future intentions to follow the recommended vaccination schedule. Mothers' illness representations of pertussis included timeline (61.8%), consequences (61.8%), control (56.7%), identity (38.2%) and cause (7.6%). After adjusting for demographics, higher vaccine safety worry (Adjusted Odds Ratio=0.22 [95%CI=0.11, 0.46]), higher perceived inefficacy of vaccines (0.02 [0.00, 0.33]) and cough as pertussis identity (0.15 [0.04, 0.64]) were negatively associated with child's UTD status. Working full time (8.98 [95%CI=2.16, 37.30]) was positively associated with child's UTD status. Further, higher vaccine worry (0.32 [0.18, 0.58]), cough as pertussis identity (0.27 [0.07, 0.95]), and greater perceived inefficacy of vaccines (0.11 [0.01, 0.87]) were negatively associated with future vaccination intention. **Conclusion:** Efforts to increase child immunization need to acknowledge vaccine safety worry and perceptions of vaccine ineffectiveness. These Common Sense beliefs need to be reconciled with scientific data about vaccine safety and the risk of vaccine-preventable disease even in a no vaccine exemption state.

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B048

6:00 PM-7:00 PM

IMMUNIZATION RATES AMONG RECENTLY AFFECTED CALIFORNIA COUNTIES

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Background: The California Assembly Bill, AB 2109, was introduced with the intention of lowering the number of non-medical vaccination exemptions, also referred to as personal belief exemptions (PBEs). Previous to the bill, a total of 16,817 non-medical vaccinations had been claimed in 2013 alone. This investigation analyzed two public datasets to determine the effects that the bill had on the number of claimed non-medical vaccination exemptions and specific vaccination rates throughout various counties within the state of California. In addition, we examined possible population differences of the counties which were more affected by the bill. **Methods:** Data was obtained from the California Department of Public Health's Annual Immunization Assessments from 2013 to 2015 and the U.S. Census Bureau (2013). Analyses included cross tabulations and T-tests to determine the effects of the bill across four CA counties; and ANOVAS to determine population differences among those selected counties. **Results:** Alameda and Los Angeles counties showed a decrease in particular vaccine rates after the bill's enactment compared to Orange and Sacramento counties, which showed an increase. Most schools within each county were either reporting zero non-medical exemptions, or between 1 and 25 percent of total students enrolled reporting non-medical exemptions within all selected counties for the 2013-15 school years. Additionally, T-tests showed significant mean differences in selected vaccine rates and PBEs between years (PBE, $M=4.00$, $SD=8.285$ for year 2013; $M=3.36$, $SD=7.549$ for year 2014). Furthermore, ANOVAS showed that the four counties in question significantly differed in terms of citizen status [$F(3, 2000) = 5.8$, $p = .001$], race composition [$F(3, 2000) = 2.64$, $p = .05$] and languages spoken at home [$F(3, 2000) = 9.6$, $p = .001$]. **Conclusion:** These results showed that the AB 2109 bill is having more pronounced effect on particular counties within California. Possible reasons for this are income levels, educational attainment, and parental lack of vaccine knowledge. Further research and practice implications are discussed.

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B049

6:00 PM-7:00 PM

IMMUNOLOGY BELIEFS AS A FACTOR IN VACCINE OPPOSITION AMONG COMPLEMENTARY AND ALTERNATIVE MEDICAL PROVIDERS

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Background Parental pediatric vaccine decisions are influenced by parents' health networks. Complementary and alternative (CAM) providers are key influences in the networks of parents who do not vaccinate their children. Consequently, it is important to understand why many CAM providers oppose pediatric vaccines. **Purpose** The present paper identifies the range and type of immunological beliefs of CAM providers with regard to pediatric vaccine recommendations, and as basis for developing structure-quantitative measures of these beliefs. **Methods** From March to July 2013, a cross-sectional survey of Oregon CAM providers ($N = 36$) was conducted concerning immunology beliefs (independent variable) as well as their vaccine positions (dependent variable) and vaccine recommendations to their patients and clients, using open ended face-to-face interviews and qualitative analytic techniques. **Results** We detailed five content areas of nontraditional immunological beliefs among CAM providers (i.e., "herd immunity, immune-neurological, system properties, substrate limitations, vaccine constituents"). Moreover, twenty CAM providers (56%) expressed nontraditional immune system beliefs, and were either opposed to most pediatric vaccines or favored delaying some vaccines. We observed overlap between immunological beliefs and other vaccine beliefs (e.g., immune beliefs and vaccine efficacy). **Conclusion** This work provides a broader conceptual understanding of immunological beliefs important for future study and measure development. In addition, our data suggest a need to study the potential link between CAM provider immunological beliefs and their clients' immunological beliefs with regard to pediatric vaccinations.

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B050

6:00 PM-7:00 PM

IMPACT OF FATIGUE AND PHYSICAL ACTIVITY ON PAIN IN CHILDREN AND ADOLESCENT WITH SICKLE CELL DISEASE

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Pain is the most common complication of pediatric sickle cell disease (SCD). Pain can negatively impact children's quality of life and interfere with normal activities (e.g., Ameringer et al., 2010). Children and adolescents with SCD report significantly greater fatigue and reduced daily activities compared to healthy controls; however, little research has investigated the relationships between fatigue, physical activity, and pain in pediatric SCD. The aim of this study was to examine the impact of fatigue and physical activity on pain in children and adolescents with SCD.

Fifty-six caregivers (87.5% mothers; 33.9% married) of children with SCD ($M = 11.59$ years, $SD = 3.07$ years; 53.6% females; 71.4% HgB, type SS) completed an on-site developed child physical activity questionnaire and demographics form during a scheduled outpatient visit. Children completed the PROMIS 25 Profile. One-way ANOVA examined group differences. The relationships between fatigue, physical activity and child anxiety/depression on pain were examined using zero-order correlation analyses and hierarchical linear regressions in SPSS 22.0. There were no differences between children and adolescents on any variable. Females reported greater fatigue [$F(1, 54) = 12.43, p = .00$] and depression [$F(1, 54) = 6.64, p = .01$] than males. Higher pain intensity was correlated with greater fatigue ($r = .28, p = .04$) and lower physical activity ($r = -.27, p = .04$). Controlling for gender, fatigue was significantly associated with pain intensity ($t = 2.38, p = .02$, Adj. $R^2 = .06$) in regression analysis. Physical activity was marginally associated with pain intensity ($t = -1.70, p = .09$) but did not significantly add to the model ($F(1, 52) = 2.88, p = .09$). Child-reported anxiety and depression were not related to pain intensity in this sample. Data collection is ongoing.

These findings suggest that decreased physical activity and increased fatigue are associated with increased pain intensity in children and adolescents with SCD. Similar to other chronic medical conditions, female children and adolescents with SCD may be at greater risk for fatigue than their male counterparts. These findings have clinical implications and warrant further investigation.

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B051

6:00 PM-7:00 PM

IMPACT OF NICU INFANT REHOSPITALIZATIONS ON PARENTAL RELATIONSHIPS

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The birth of a child is an exciting and challenging time for parents. The first few years requires parents to learn to balance work, family, infant care, and self-care. Between 7% and 15% of parents will have an infant who will spend time in a Neonatal Intensive Care Unit (NICU). After NICU discharge, parents care for an ill or preterm infant and often worry about rehospitalizations, ongoing health issues, and long-term impact of the experience. The transition from NICU to home care can be difficult for parents. Maintaining a strong relationship is key to positive parental, child, and family outcomes (Treyvaud, 2014). Parents of all newborns experience a greater decrease in marital satisfaction compared to non-parents (Doss, Rhoades, Stanley, & Markman, 2009). Therefore, an ill infant can dramatically impact the parents' relationship. Yet, few studies have examined the parental relationship as an outcome of the NICU experience (Schappin et al., 2013). The current ongoing study examines how NICU infant rehospitalizations affect parents' relationship. Parents (To date, $N = 54$) whose child has been discharged from the NICU 6 months to 3 years ago and who are in an intimate relationship and have been cohabitating with their partner and infant since discharge were recruited via the Internet. Forty-six participants were Caucasian, 52 were biological mothers, and average age was 31 ($SD = 5.02$). Parents self-reported number of rehospitalizations since NICU discharge and couple functioning on the Dyadic Adjustment Scale (RDAS; Busby, Christensen, Crane, & Larson, 1995). Parents with infants who were rehospitalized after discharge, compared to those who were not, experienced poorer couple functioning ($t = -2.12, p = .04$). Number of rehospitalizations was not significantly associated with couple functioning ($r = -.020, p = .938$). Poorer couple functioning (higher score on scale) was associated with higher parenting stress (higher score on scale) ($r = .568, p < .001$). This research has the potential to inform researchers and families on the specific child health indicators (i.e., rehospitalizations) that help improve couple relationships.

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B052

6:00 PM-7:00 PM

ENGAGING HOSPITALIZED OLDER ADULTS INTO FALL PREVENTION

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Background: Fall prevention is a major health and patient safety, and hospitalized older adults are at especially high risk for falls. Patient education is an essential component of evidence-based fall prevention programs. However, older adults often have difficulty accepting and changing behavior based on fall education. Motivational interviewing applied to fall prevention is a promising approach that can tailor education to older adults and promote behavior changes that reduces fall risk. **Objectives:** The primary objective is to identify hospitalized older adults' knowledge, perspectives, and behaviors related to fall prevention. The secondary objective is to determine the feasibility of motivation-based fall prevention education for cognitively oriented hospitalized older adults. **Methods:** Cognitively-oriented, English-speaking older adult patients admitted to medical and surgical floors in one hospital were recruited to participate in semi-structured interviews based on motivational interviewing techniques. Interview questions were formulated based on the literature on fall prevention and patient education, and aimed to capture patient knowledge, perceptions on risk and coping, and behaviors related to fall prevention. The interviewer recorded written notes, which were analyzed using descriptive statistics and qualitative thematic analysis. **Results:** A total of 37 interviews were conducted. Only half of interviewed patients remembered receiving any fall education, and just 20% of patients considered themselves to be at risk for falls. Half of the patients accepted an offer to receive more fall education. Several themes related to fall prevention were identified, including normalization of falls, fear of being a burden to a nursing staff, and rejection toward "being told what to do" and "asking for help." Many patients were able to identify behavioral strategies to prevent falls, such as regularly using the nurse call light and regularly using a cane or assistive device. **Implications:** Hospitalized older adults in this sample showed significant gaps between their perceived risk for falls and use of self-identified fall prevention behaviors. Motivational interviewing may be useful in improving engagement in fall prevention education and health behaviors.

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B053

6:00 PM-7:00 PM

A BIO-BEHAVIORAL INTERVENTION TO DECREASE VAGINAL PRACTICES AND BACTERIAL VAGINOSIS AMONG HIV INFECTED ZAMBIAN WOMEN

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Introduction: Vaginal practices (VP) are common in women with HIV and increase the risk of Bacterial Vaginosis (BV), the most common female genital infection. BV is associated with transmission of Sexually Transmitted Infections and HIV. This study tested an intervention to reduce VP and BV in HIV infected women in Zambia. **Methods:** HIV infected women engaging in VP were enrolled in 2 conditions: enhanced standard of care (SOC+) and experimental (SOC+ plus group intervention). Participants completed questionnaires assessing sexual risk factors and VP; and were assessed for BV at baseline, 6 months and 12 months. All participants received a brief educational session counseling on discontinuation of VP, and women with BV received treatment. Women in the experimental condition received an additional group-based, culturally tailored intervention. **Results:** 70 women were enrolled in the SOC+ and 58 in the experimental condition. There was a reduction in the use of products used for VP from baseline to 6 months: water from 91% to 37%; soap from 68% to 11%; cloth or a rag from 53.4% to 6%; herbs or flowers from 18% to 5% and traditional medicines from 28% to 3.8% (all $p < 0.05$); and a non-significant increase at 12 months (water 47%, soap 36%, cloth 26%, herbs 8% and traditional medicines 30%). Rates of BV decreased from 64% at baseline to 15% at 6 months ($p < 0.05$) and then increased to 58% at 12 months ($p = 0.37$). At the 12 month visit, women in the experimental condition had a greater reduction than SOC+ in the use of soap (4.8 vs 29%); cloth or a rag (18% vs 37%) and traditional medicines (22% vs 42%) (all $p < 0.05$). **Conclusion:** A bio-behavioral intervention was effective in decreasing VP and BV in women with HIV infection in Zambia. Future studies should address its potential implementation in communities with high burden of VP, BV and HIV. Interventions that can easily be administered during routine medical care to decrease BV should be essential components of any of women's health program. Funded by a grant from NICHD (K23HD074489) and Miami CFAR (P30AI1073961).

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B054

6:00 PM-7:00 PM

IMPACT OF HIV-RELATED STIGMATIZATION ON TREATMENT ADHERENCE AMONG HIV-INFECTED PEOPLE: A TEST OF TWO EXPLANATORY MECHANISMS

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Stigmatization (i.e., social discrediting and devaluation) due to HIV status may interfere with disease management among persons living with HIV (PLWHA) by heightening disclosure concerns and vulnerability to depressive symptoms. In this study, we tested the hypotheses that disclosure concerns and depressive symptoms would mediate the association of stigma to treatment adherence (medication and clinic appointment adherence) in an outpatient sample of PLWHA ($N = 174$; 47% White, 41% African-American). Participants completed measures of stigma-related experiences, concerns about disclosing HIV status, depression, and medication adherence; chart data were obtained to characterize clinic appointment attendance. In the first set of analyses, simple mediation models indicated that disclosure concerns mediate the association between stigma and medication adherence ($\beta = -0.097$; 95% CI: -0.212 to -0.003), but not the association between stigma and clinic attendance. In the next set of analyses, depressive symptoms were shown to mediate both the stigma-medication adherence association ($\beta = -0.113$; 95% CI: -0.232 to -0.034) and the stigma-clinic attendance association ($\beta = 0.397$; 95% CI: 0.172 to 0.723) in simple mediation models. To augment these analyses, serial mediation models were tested in which both disclosure concerns and depressive symptoms were included in the same model. That is, the serial mediation analyses tested the sequential effect of disclosure concerns on depressive symptoms in the stigma-treatment adherence association. The serial mediation analyses were significant ($\beta = -0.025$; 95% CI: -0.068 to -0.004 for medication adherence; $\beta = 0.118$; 95% CI: 0.039 to 0.237 for clinic attendance), providing evidence that stigmatizing experiences negatively influence medication adherence and missed clinic appointments indirectly through the sequential effect of disclosure concerns on depressive symptoms. Disclosure concerns and depressive symptoms are two mechanisms worthy of further research to enhance our understanding the association between stigma and HIV treatment adherence difficulties.

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B055

6:00 PM-7:00 PM

INTEGRATED BEHAVIORAL MEDICINE IN AN URBAN HIV CLINIC: EVALUATING HEALTH LITERACY AND PSYCHOLOGICAL FUNCTIONING: A PILOT STUDY

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The CDC estimates that over 1.2 million persons aged 13 years and older are living with HIV infection, including 156,300 (12.8%) who are unaware of their infection. In 2013, an estimated 47,352 people were diagnosed with HIV infection in the U.S. In that same year, almost 27,000 people were diagnosed with AIDS. Psychosocial issues like depression, anxiety, HIV stigma, and substance use serve as barriers to overall well-being, treatment adherence, health service engagement, and even immunological response and mortality (Farber et. al. 2013; Gonzalez et. al. 2011). With a significant number of HIV patients presenting with comorbid mental health and substance use disorders, there is increased focus on the importance of integrated mental health care seeming to favor a multidisciplinary model with a biopsychosocial approach to treatment (Soto, Bell, & Pillen 2010). The purpose of the current study was to evaluate the level of need for Integrated Behavioral Medicine (IBM) in an urban outpatient HIV Early Intervention Program (EIP) by focusing on participant psychological functioning and health literacy. The EIP program has an annual patient census of over 950 patients and utilizes a multidisciplinary approach to medical care, completing brief screening for depression annually. Twenty-six subjects were evaluated by Behavioral Medicine clinicians with the Client Diagnostic Questionnaire-Short Form (CDQ-S). Subjects ranged in age between 21-60 years ($M = 40.3$; $SD = 11.9$), were 68% male, and were racially diverse (48% black, 16% Latino, 16% white, 16% "mixed"). Fifty percent identified as straight, 38% gay/lesbian, 8% bisexual; and 42% completed at least a high school education. Considering health literacy or knowledge of HIV status, 56% of subjects reported being unaware of their current CD4 count. Psychological functioning results reveal that 58% of participants meet criteria for Major Depressive Disorder (69% any depression); 31% Panic Disorder; 62% Generalized Anxiety Disorder; 56% PTSD; 27% Psychosis, and 12% for alcohol and drug use disorders. Based on results of the pilot study, implications for IBM in HIV care will be discussed along with suggestions for a cost effective training program model and focus of intervention for improved adherence and health service engagement.

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B056

6:00 PM-7:00 PM

INTRAVAGINAL PRACTICES IN HIV INFECTED YOUNG ADULT WOMEN IN ZAMBIA

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Introduction: Young adult women in Zambia have high rates of HIV infection. Engaging in vaginal practices (VP) has been linked to bacterial vaginosis (BV), and BV increases the risk of HIV acquisition. Both VP and BV may facilitate HIV transmission to sex partners and newborns. Middle aged HIV infected women in Zambia have been found to engage in VP for hygiene, health and sexuality reasons, but engagement in VP by young adult women has not been studied. **Methods:** Young (age less than 25) and middle aged (ages 35-65) HIV infected Zambian women engaging in VP completed an audio computer self-assisted interview. Demographic, HIV history, sexual risk factors, types of VP and reasons for engagement in VP were compared between young and middle aged women. **Results:** Younger women ($n = 24$) were more likely to be single (100% vs 17%, p less than 0.01), to be more recently diagnosed with HIV (less than one year 35% vs 9%, p less than 0.01), to be unaware of their partner's HIV status (90% vs 30%, p less than 0.01) and to not have disclosed their HIV status to their partners (60% vs 8%, p less than 0.01) than middle aged women ($n = 66$). Neither the number of sexual partners in the past month nor the use of condoms differed by age. Product use (soap: younger 96% vs middle age 74%, $p = 0.01$), and frequency of engaging in VP was more common in younger women (daily: 96% vs 80%; $p = 0.05$); use of other products were similar between age groups. VP were more likely to be used by younger women for hygiene reasons (fingers: 82% vs 43%; water: 87% vs 27%; soap: 82% vs 33%; cloth, paper or wipes: 50% vs 16%; herbs: 75% vs 12%, all p less than 0.01); and older women were more likely to use VP to please partners (soap: 18% vs 4%, $p = 0.08$; cloth: 57% vs 20%, $p = 0.04$). Younger women's most recent use of VP was more likely to be due to hygiene reasons (87% vs 26%, $p = 0.01$) while middle aged women's most recent use was associated with pleasing male partners (39% vs 12%, $p = 0.02$). **Conclusions:** Interventions aimed at reducing VP and subsequent BV should be tailored to age-specific practices and preferences. Widespread reduction in the use of VP in settings with high prevalence of VP, BV and HIV infections may represent an HIV prevention strategy to reduce transmission to partners and newborns. Funded by NHI (K23HD074489 and Miami CFAR P30AI07961).

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B057

6:00 PM-7:00 PM

IT HURTS MORE WHEN I'M DEPRESSED: THE MODERATING EFFECT OF GENDER ON REPORTED PAIN AMONG AGING HIV-POSITIVE ADULTS

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As effective anti-retroviral regimens prolong life expectancy in persons living with HIV/AIDS, greater priority is being placed on improving quality of life among those aging with HIV. A highly prevalent comorbidity of HIV is physical pain, which may be influenced by psychosocial factors such as depression, another common comorbidity in older HIV-infected adults. The relationship between pain and depression was tested in a sample of 91 HIV-positive individuals who were ≥ 50 years of age. A hierarchical linear regression was conducted to model participants' self-reported pain severity, using depression (measured by the Beck Depression Inventory) and gender as predictors. While gender had no main effect on pain severity, there was a significant main effect for depression ($p < .001$), which was qualified by a significant interaction between gender and depression ($p = .002$). Consistent with the main effect, pain severity was generally higher as depression scores increased. However, while female participants stayed fairly level in reported pain severity regardless of depressive symptoms, male participants tended to show a more extreme range: they reported low levels of pain when they had low depressive symptoms, but much higher levels of pain when they had greater depressive symptoms. In this sample of HIV-positive individuals ≥ 50 years of age, gender and depression interacted to predict perceptions of physical pain. Quality of life interventions for older HIV-infected adults may be more efficacious if they integrate depression treatments into pain management protocols, especially for males aging with HIV.

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B058

6:00 PM-7:00 PM

PREVALENCE OF ALCOHOL USE, SEXUAL RISK BEHAVIOR, AND HIV AMONG RUSSIANS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Alcohol consumption in Russia is among the highest per capita in the world and HIV has increased dramatically over the past three decades, accounting for nearly 70% of the known infections in Eastern Europe and Central Asia. The purpose of this meta-analysis was to examine the prevalence of alcohol use, sexual risk behaviors, and HIV among Russians. **Methods:** Comprehensive electronic searches were conducted to locate studies that sampled Russians and assessed alcohol use and either a behavioral measure of risk (e.g., unprotected sex) or a biological measure of HIV incidence. Weighted mean (logit) effect sizes were calculated using random-effects assumptions. Moderator analyses were conducted using meta-regression analysis following random-effects assumptions. **Results:** Studies ($18, k = 25$) sampled 22,962 participants living in Russia ($M = 29$ years of age; 37% women). Participants were recruited primarily from clinical (47%; e.g., sexually transmitted infection clinic, drug treatment) or other high-risk settings (21%; e.g., sexual or drug networks); one study recruited participants from schools. Findings indicate that a substantial proportion of the participants used substances: alcohol use (67%; 41% heavy drinking) and injection drugs (23%). Most participants reported using alcohol before sex (57%). Of the 8 studies testing participants for HIV, 10% of participants tested positive. Moderator tests indicated that risky alcohol use predicted multiple sexual partners and inconsistent condom use; alcohol use before sex predicted inconsistent condom use. **Conclusions:** These findings support the need for and potential benefit of addressing alcohol use in HIV prevention programming in Russia.

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B059

6:00 PM-7:00 PM

SYSTEMATIC REVIEW OF INTERVENTIONS FOR SLEEP PROBLEMS IN PEOPLE LIVING WITH HIV

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Sleep is vital to all human functioning. Poor sleep is a known problem in people living with human immunodeficiency virus (HIV). It has been estimated that 58% of HIV-infected people world-wide self-report sleep disturbances after diagnosis. Contributing factors of poor sleep include geographical location, higher age, and higher CD-4 counts. It is unclear what types of interventions have been tested as possible treatments for sleep problems in this population. The purpose of this study was to conduct a systematic review of existing literature to exam the interventions for sleep problems in individuals living with HIV. This was a systematic review looking for articles that were; peer-reviewed, original articles from 1980 through September 2015, identified using in a electronic search engines, with preset inclusion and exclusion criteria. Information from articles were abstracted onto a paper checklist by one reviewer with a second reviewer verifying all abstracted information. All data were entered into an electronic database, verified for accuracy, and analyzed using descriptive statistics and frequencies in SPSS (v.23). A total of 463 article titles and abstracts were reviewed. Only 5 articles met the criteria for includes and were selected for review. Out of the 5 articles, 3 were pilot studies (one of which was randomized), 1 randomized-control trial, and 1 non-randomized trial. Three studies were cognitive or behavioral treatments for sleep problems (sleep hygiene, sleep promotion, caffeine reduction) and 2 studies used lower limb splinting to reduce pain and improve sleep. Sample sizes ranged from 22-46 subjects. The majority of studies included both male and female subjects ($n=4$), focused on HIV only ($n=4$), and used self-reported sleep measures ($n=4$). The majority of studies found significant changes in sleep subjective scores in post-test analyses. None of the reviewed interventions showed strong enough support to recommend the specific intervention for practice. Intervention-based studies for sleep problems in people living with HIV are minimal. The studies included small sample sizes with only mild-moderate effects or changes in self-reported sleep. Additional larger-scale, randomized trials are needed using known effective cognitive behavioral interventions in this population.

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B060

6:00 PM-7:00 PM

THE EFFECTS OF HIV ONSET CONTROLLABILITY, GENDER AND CASUAL SEX ATTITUDE ON PERCEPTIONS AND REACTIONS TOWARDS PLHIV

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Background: HIV-related stigma remains pervasive in Singapore and hinders daily living of persons living with HIV (PLHIV) as well as the effectiveness of HIV prevention measures. **Purpose:** This study examined undergraduates' attributions (control, responsibility and blame), emotional responses (anger and sympathy) and helping intentions (personal help and support for institutional assistance) towards PLHIV in Singapore. **Methods:** A questionnaire study was done in which 2 x 2 between-subjects design using vignettes systematically manipulated HIV onset controllability (high: casual sex / low: unfaithful spouse) and PLHIV gender (male/female). Two hundred fifty-three undergraduates (65.6% female) from the National University of Singapore participated in the study. **Results:** Significant main effects of HIV onset controllability were found for participants' attributions, emotional responses and support for institutional assistance. A marginally significant main effect of HIV onset controllability was found for participants' personal helping intentions. A significant main effect of PLHIV gender was found for participants' sympathy. Participants' emotional responses mediated the relationship between attributions of control and support for institutional assistance. Participants' attitudes towards casual sex also moderated their anger and support for institutional assistance towards PLHIV with differing HIV onset conditions. **Conclusion:** These results point to the importance of perceptions of HIV onset controllability and gender in lay people's responses to PLHIV. Also highlighted are the importance of emotions in mediating the effects of attribution and the importance of attitude towards casual sex in moderating responses to PLHIV. Theoretical and practical implications are discussed.

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B061

6:00 PM-7:00 PM

THE RELATION BETWEEN SUBSTANCE USE AND HAART ADHERENCE AMONG HIV POSITIVE SUBSTANCE USERS IN RESIDENTIAL TREATMENT

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There are 1.1 million people in the U.S. living with HIV. Highly active antiretroviral therapy (HAART) is effective at decreasing mortality only with high levels of adherence. Substance use (SU) is associated with low rates of HAART adherence among low-income African American substance users, but we do not know what may explain this association. Lack of access to alternative sources of reinforcement from non-substance related activities may be a promising behavioral mechanism because substance users may have low access to rewards from living a healthy life, and in turn may place less value on a healthy lifestyle overall, and thus be less inclined to take medication as prescribed. The current study examined total SU (heroin, cocaine, alcohol, and marijuana) as a predictor of HAART adherence in a sample of HIV positive low-income substance users in residential treatment. We aimed to examine positive reinforcement from the environment (PRE) as a mediator of this relationship. Participants were African American ($N=87$, 43.7% female, $Mage=45.5$, $SD=8.28$) substance users in residential treatment. We collected demographics, self-reported adherence, drug use history, and PRE. Sample was characterized by the following SU frequency of 4 or more times per week: 40% alcohol, 37.3% cocaine, 14.1% marijuana, and 16.4% heroin. Higher total SU predicted lower medication adherence ($\beta=-.50$, $F(1,73)=4.91$, $R^2=.06$, $p=.03$). To test mediation we used a bootstrapping method. There was a nonsignificant indirect effect ($.159 \times -.378 = -.06$; bootstrapped CI [-.52-.03]). There was a significant main effect of PRE on low medication adherence ($\beta=-.380$, $F(2,72)=8.74$, $R^2=.20$, $p=.001$). Total SU impacts poor HAART adherence among HIV positive substance users in residential treatment. Access to environmental sources of reward does not mediate this relationship, however it is an important independent factor in poor HAART adherence. Future research should look at additional mediators and moderators (i.e. psychopathology) as well as the unique contribution of individual substances on HAART adherence.

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B062

6:00 PM-7:00 PM

TRAIT ANGER AND MEDICATION ADHERENCE: THE INFLUENCE OF GENDER AMONG HIV+ BLACK/AFRICAN AMERICAN ADULTS 50+

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Background and Aims: Highly Active Antiretroviral Therapy (HAART) has led to a decrease in AIDS related morbidity and mortality in HIV+ individuals. However, not adhering to a consistent HAART regimen can foster drug resistance, hastening progression towards AIDS. Despite previous work that has examined associations between psychosocial variables and medication adherence, the role of mood and how it effects medication compliance has been understudied; especially within the context of gender differences. The primary aim of this study was to examine if gender moderates the relationship between trait anger and treatment adherence. **Method:** A cross sectional study was conducted between October 2013 and January 2014. Study participants included 96 HIV-positive Black/African American men and women recruited through the University of Florida Center for HIV/AIDS Research, Education and Service (UF CARES) in Jacksonville, Florida. Pearson correlations examined associations between trait anger and medication adherence. Binary logistic regression analyses stratified by gender examined the association between trait anger and medication adherence while controlling for covariates. **Results:** Among men, trait anger was positively associated with nonadherence (skipping a pill or delayed dose in the last four days), 95% CI: 1.012 – 1.699, AOR=1.31, $p=.040$. No significant associations were found between trait anger and medication adherence in women, 95% CI: 0.849 – 1.123, AOR=.976, $p=.739$. The addition of trait anger explained 32.0% of the variance in nonadherence among men, and only 4.0% of the variance among women. **Conclusions:** Treatment adherence in this population may be associated with unaddressed psychological factors such as anger. Interventions should account for gender specific needs in order to encourage optimal medication adherence. Further research into psychological factors that differ based on gender is needed as it will likely have important clinical implications.

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B063

6:00 PM-7:00 PM

TRAUMA AMONG PATIENTS IN AN URBAN OP HIV CLINIC: PREVALENCE AND IMPLICATIONS FOR TREATMENT

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Significant research has addressed the relationship between PTSD and health outcomes for people living with HIV (PLWH). Although past reviews have found PTSD prevalence rates for PLWH ranging from 10-74% across various populations, rates are consistently significantly higher than those in the general public (8%; Applebaum et al., 2015; Leserman, 2008; Machtinger, Wilson, Haber, & Weiss, 2012). Additionally, PTSD has been linked to lower medication adherence and health functioning, and greater healthcare utilization for PLWH (Leserman et al., 2015; O'Leirigh, Skeer, Mayer, & Safran, 2009). The purpose of the current study was to evaluate the prevalence of various traumatic events and of PTSD among Behavioral Medicine patients in an urban outpatient HIV Early Intervention Program (EIP) as support for the need for integrated care. The EIP program has an annual patient census of over 950 patients and utilizes a multidisciplinary approach to medical care, completing brief mental health evaluations at each new patient visit. Twenty-seven subjects were evaluated by Behavioral Medicine clinicians with the Client Diagnostic Questionnaire-Short Form (CDQ-S). Participants ranged between 21-60 years ($M = 40.3$; $SD = 11.9$) and were predominantly male (70%). The sample was racially diverse (48% black, 19% Latino, 15% white, 15% "mixed"). Half (46%) of participants identified as straight, 41% as gay/lesbian, 7% as bisexual, and 48% completed at least a high school education. Nearly all (93%) participants reported having experienced at least one traumatic lifetime event and 74% reported some form of past sexual (41%) or physical abuse (70%). One-third of subjects endorsed experiencing 9 or more lifetime traumas and 58% of participants endorsed symptomatology consistent with PTSD. These rates are consistent with what has been seen in other HIV-positive samples, but are 3-6 times higher than those seen in the general public (Applebaum et al., 2015; Machtinger, Wilson, Haber, & Weiss, 2012). Findings further highlight the need for evidence-based PTSD treatments for HIV-infected patients. Integrated Behavioral Medicine represents a uniquely situated opportunity to engage patients in treatment by conceptualizing PTSD and its treatment in the context of their HIV.

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B064

6:00 PM-7:00 PM

PHYSICAL ACTIVITY PERSPECTIVES AND PREFERENCES OF OUTPATIENTS SEEKING MENTAL HEALTH SERVICES: MOVING TOWARDS WELLNESS STUDY

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Physical activity (PA) has been shown to be an effective self-management strategy for depression and anxiety disorders. Little information is available regarding the views of mental health (MH) outpatients regarding PA, their PA program preferences, and their MH providers' communication and recommendations with respect to PA. A convenience sample of 295 adult outpatients waiting for MH appointments at the University of Michigan completed a PA survey between September and December 2014 (87% response rate). Qualitative follow-up interviews (n=18) were administered by phone to a representative subsample during April 2015. Based on the quantitative PA survey findings, the qualitative survey focused on the following concepts; 1) past and desired communication with MH providers regarding PA, and 2) preferences for PA programming in clinical care including personal coaching. Survey respondents were primarily women (73%), white (89%), middle-aged (mean 42 years), and self-reported a diagnosis of depression (79%) and/or anxiety (75%). National PA guidelines (minimum of 150 min/wk) were achieved by 43% of respondents. PA was used to control moods by 90% of respondents. Only 37% regularly discussed PA with their MH provider even though 94% reported depressed mood as a barrier to PA. A common theme in the qualitative interviews was the need for increased clinician communication, support, and assistance in using PA as a self-management strategy for depression and/or anxiety. Also, the outpatients offered various suggestions for the integration of PA-related support into clinical MH care. Outpatients were very receptive to MH providers offering optional PA coaching and programs as part of their ongoing outpatient care. Adult outpatients seeking MH care recognized a link between mood and PA. Most outpatients reported limited involvement from their MH providers with respect to PA. Based on these quantitative and qualitative patient-centered recommendations, a pilot PA program is planned emphasizing personal coaching as part of ongoing MH services.

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B065

6:00 PM-7:00 PM

PREVENTING SUICIDE IN HAWAII THROUGH YOUTH EMPOWERMENT

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Suicide is a public health issue in Hawaii, especially for Native Hawaiian youth. The purpose of this study was to empower youth to prevent suicide in their communities by enhancing protective factors for suicide related behaviors. The Hawaii Youth Leadership Council on Suicide Prevention brought together youth from around the state for a two day training workshop in April 2015. The conference theme was E Malama Ola (Caring for Life). During the workshop, youth and their trusted adults participated in interactive skills building activities and were given resources to use in their own communities. Each youth participant applied for Youth Leadership Council membership and was interviewed by local leaders in suicide prevention. Workshop participants completed pre and post surveys measuring knowledge about suicide prevention, comfort level with referring people to proper resources, and the likelihood of participants implementing new skills. The data shows improvement in each of these focus areas, with a notable 15% increase in the perception of suicide as a largely preventable phenomenon and a 43% increase in the knowledge that youth who attempt suicide frequently tell someone in advance. The power of youth voice was a common theme in the data, exemplified by the statement: "We can actually make a difference in the community and erase the stigma of suicide." These findings suggest that positive youth development is crucial in preventing suicide in the state. Challenging youth to build upon their strengths requires community investment, and the Youth Leadership Council provides one model for uniting youth and supportive adults.

Key words: suicide prevention, youth development, youth advocacy

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B066

6:00 PM-7:00 PM

PSYCHIATRIC DIAGNOSES AND CO-MORBIDITIES IN A MULTISITE COMMUNITY COHORT OF YOUNG TRANSGENDER WOMEN

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Adolescent and young adult transgender women (YTW) assigned a male sex at birth who identify as girls, women, transgender women, transfemale, male-to-female, or another diverse transfeminine identity, represent a vulnerable population at-risk for negative mental health and substance use outcomes. This observational study aimed to determine the prevalence of mental health psychopathology, substance dependence, and co-morbid psychiatric diagnoses assessed using the Mini International Neuropsychiatric Interview (MINI) Version 6 in a high-risk community sample of YTW using baseline data from 283 YTW ages 16-29 years (mean age 23.3; 48% Black, 12% Latina, 26% White, 24% other minority race/ethnicity) enrolled in an ongoing multisite HIV prevention intervention trial for YTW in Chicago and Boston ("Project Lifeskills") between 2012-2015. Age- and site-adjusted prevalence estimates were calculated. Overall, 41.1% of YTW sampled had one or more current mental health and/or substance dependence diagnoses; one in five (20.0%) had two or more co-morbid psychiatric diagnoses. Prevalences were as follows: lifetime and current major depressive episode 35.4% and 14.2%, respectively; suicidality 20.3%; generalized anxiety disorder 8.0%; post-traumatic stress disorder 10.6%; alcohol dependence 11.1%; and non-alcohol psychoactive substance use dependence 15.5%. Prevalence of psychiatric diagnoses was high in this community sample of YTW. Interventions are urgently needed to address adverse mental health and substance dependence outcomes in this at-risk population, including those delivered by multidisciplinary teams in clinical community-based, pediatric, and adolescent medicine settings.

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B067

6:00 PM-7:00 PM

QUALITY OF LIFE AND INTERNALIZING SYMPTOMS IN UNDERGRADUATE STUDENTS WITH A PEDIATRIC CHRONIC ILLNESS

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Undergraduate students (UGS) with a pediatric chronic illness (PCI) are more likely to face anxiety (Anx) and stress compared to healthy UGS. PCI and internalizing symptoms (sx) are related to lower quality of life (QoL) in pediatric populations (e.g., celiac disease, HIV), but more investigation is needed on the long-term impact of PCI on young adults. Conceptually, QoL is based on adult research, not accounting for developmental changes, such as the transition to college. This study aims to expand upon the research by comparing functioning (fx) in UGS with and without PCI, and examine if more PCI conditions and more internalizing sx impacts fx.

UGS (n=186, 85.5% female, age=19.8) were recruited for class extra credit at a North-eastern college. UGS completed a consent and self-report measures on a secure website, PsychData, including a medical survey of PCI, Assessment of Quality of Life (AQOL) with subscales of Pain (Pn), Coping (Cop), Independent Living (IL), Happiness (Hap), Mental Health (MH), Relationships (Rel), Senses, and Self Worth (SW), and the Depression, Anxiety, and Stress Scale 21 (DASS-21) as part of a larger study.

T-tests found UGS with a PCI have lower QoL fx in Pn ($t(177)=1.9, p=.064$) and Cop ($t(177)=2.4, p=.016$) compared to healthy UGS, and the more PCI conditions, the lower fx in these areas ($r=-.17, r=-.15$). In UGS with PCI, higher DASS scores were related to lower fx in MH ($r=-.3, p=.01$; $r=-.278, p=.01$; $r=-.321, p=.01$), Cop ($r=-.416, p=.00$; $r=-.323, p=.01$; $r=-.363, p=.00$), and SW ($r=-.349, p=.002$; $r=-.273, p=.02$; $r=-.321, p=.01$), but only related to lower fx in Rel ($r=-.199, p=.04$; $r=-.239, p=.02$; $r=-.257, p=.01$) for healthy UGS.

These results suggest UGS with PCI may experience issues with Pn and Cop, but are fx relatively similar to healthy peers in other domains of quality of life. This suggests possible resilience among young adults with PCI who are enrolled as UGS. As having more PCI conditions and higher internalizing sx are related to lower fx, individual and systemic interventions could improve psychosocial adjustment and enhance resiliency in UGS with a PCI.

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B068

6:00 PM–7:00 PM

QUALITY REVIEW OF HEALTHCARE PRACTICES FOR DUAL-DIAGNOSED PTSD-ALCOHOL USE DISORDERS IN THE MILITARY HEALTH SYSTEM, FY13-FY14

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Background: No empirically-based studies characterize treatment for dual-diagnosed posttraumatic stress disorder (PTSD) and an alcohol use disorder (AUD). Here, we present selected findings of a quality improvement study focused on the care of active duty military personnel diagnosed with PTSD and AUD in FY2013. **Methods:** Reimbursement claims, pharmacy data, and demographic descriptors were derived from the Military Health System Data Repository. Identification of PTSD-AUD cases was based on ICD-9 codes. Healthcare system (military v. community), quantity, frequency, and type of care was tracked for 12 months since the index dual-diagnosis. **Results:** Of 2,662 active duty cases with PTSD-AUD, significant differences were found in healthcare system use by type of alcohol disorder, age group, Service affiliation, and pay grade. Of the 2,254 cases not lost to follow up, 93.3% had 2 or more behavioral health visits, with half having visits 21 or fewer days apart. Individual psychotherapy was the most common type of visit across the first 10 visits, followed by group psychotherapy. Hispanics and “other” race/ethnicities were significantly ($p < 0.05$) more likely to receive behavioral and health intervention counseling. Of the 1,605 cases with ≥ 10 behavioral health visits, care was near-weekly with $> 93\%$ of care delivered in psychiatric care settings, and 5% delivered in primary care settings. Of the 1,486 cases whose medications could be matched to the first 10 behavioral health visits, significantly fewer received prescriptions for antidepressants, anxiolytics/hypnotics, alcohol use medications, opioids, benzodiazepines, and sleep aids at visit 10 compared to the initial visit. Most psychoactive prescriptions originated in psychiatric care settings; most opioid prescriptions originated in primary care settings. **Discussion:** Differential patterns of healthcare system utilization or type of care by demographic characteristics indicate non-standardization of care. The data point to the need for clinical care guidelines that integrate best practices for PTSD and AUD.

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B069

6:00 PM–7:00 PM

SOCIAL SUPPORT AND HEALTH SERVICE USE IN DEPRESSED ADULTS: FINDINGS FROM THE NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY

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Social Support and Health Service Use in Depressed Adults: Findings from the National Health and Nutrition Examination Survey

Objective: We investigated the relationship between social support and health service use among men and women with depression. **Methods:** Participants were 1,379 adults with symptoms of depression (Patient Health Questionnaire [PHQ-9] score ≥ 5) in the National Health and Nutrition Examination Survey. Using the framework of the Andersen Behavioral Model of Health Services Use, multivariable regression models used social support, stratified by depression severity, to estimate association with utilization of mental health and non-mental health services. Partial *F*-tests examined *a priori* interactions between social support and gender. **Results:** Among those with adequate social support, odds of seeing a non-mental health provider were much higher when depression was moderate (OR:2.6[1.3–5.3]) or severe (OR:3.2[1.2–8.7]), compared to those lacking social support. Conversely, odds of mental health service use were 60% lower among those with moderate depression (OR:0.4[0.2–1.0]) when social support was adequate as opposed to inadequate. Social support was unrelated to service use when depression was mild. Gender moderated the relationship between social support and health service use among individuals with severe depression. **Conclusions:** Social support has opposite associations with mental and non-mental health service use among adults with clinically significant depression. This association is largely attributable to the effect of men.

Keywords: Depression, Social Support, Health Service Use, NHANES, Gender

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B070

6:00 PM–7:00 PM

STRUCTURAL AND CONSTRUCT VALIDITY OF THE LEEDS MULTIPLE SCLEROSIS QUALITY OF LIFE SCALE

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Purpose: The Leeds Multiple Sclerosis Quality of Life (LMSQOL) scale was designed as an 8-item, unidimensional MS-specific measure of overall quality of life (QOL). The assumptions of unidimensionality and construct validity of scores have not been thoroughly examined using large samples. This study (1) tested the unidimensionality of the LMSQOL using confirmatory factor analysis (CFA) and (2) examined the construct validity of scores based on the pattern of correlations with other measures and a nomological network. **Methods:** The sample included 292 individuals with MS who were recruited from the Midwestern region of the United States for a longitudinal examination of physical activity and QOL. Participants completed a battery of questionnaires that were delivered and returned using the United States Postal Service. We tested the fit of a single-factor model for the 8 items on the LMSQOL using CFA with the diagonally weighted least squares (DWLS) estimator in R. We examined the construct validity of the overall LMSQOL scores using both Pearson's product-moment and Spearman rank-order correlations in SPSS v21. **Results:** The single-factor model had a satisfactory fit (CFI=.97, SRMR=.07), and the addition of a correlated residual term between items 6 and 7 improved the fit of the model for the LMSQOL (CFI=.99, SRMR=.05). LMSQOL scores demonstrated strong correlations with measures of psychological well-being ($|r_p| = .50-.75$, $|r_s| = .53-.74$) and weak-to-moderate correlations with measures of physical functioning and disability ($|r_p| = .22-.58$, $|r_s| = .23-.57$). **Conclusion:** The unidimensional model provides a good fit for the 8-item LMSQOL, and overall scores provide a valid measure of overall QOL in MS.

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B071

6:00 PM–7:00 PM

THE EFFECTS OF OPTIMISM AND GRATITUDE ON ADHERENCE, FUNCTIONING, AND MENTAL HEALTH FOLLOWING AN ACUTE CORONARY SYNDROME

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Objective: Positive psychological constructs are associated with improved outcomes among medical patients. This study aimed to examine the effects of optimism and gratitude on self-reported adherence, physical functioning, and mental health after an acute coronary syndrome (ACS). **Methods:** A series of four increasingly adjusted multivariate linear regression models examined associations between optimism and gratitude measured two weeks post-ACS, and six-month outcomes: adherence, mental and physical health related quality of life, physical functioning, cardiac symptoms, depression, and anxiety. **Results:** In the fully adjusted models, optimism ($\beta = .108$, $SE = .050$, $p = .033$) and gratitude ($\beta = .104$, $SE = .046$, $p = .026$) were positively associated with adherence to medical recommendations. Optimism ($\beta = .445$, $SE = .127$, $p = .001$) and gratitude ($\beta = .334$, $SE = .117$, $p = .005$) were positively associated with mental health related quality of life. Optimism was protective of depression ($\beta = -.109$, $SE = .052$, $p = .039$) and anxiety ($\beta = -.150$, $SE = .052$, $p = .004$). Gratitude was also protective of depression ($\beta = -.105$, $SE = .047$, $p = .028$) and anxiety ($\beta = -.102$, $SE = .048$, $p = .034$). Optimism, but not gratitude, was marginally significantly (negatively) associated with cardiac symptom count ($\beta = -.058$, $SE = .029$, $p = .051$). **Conclusion:** Optimism and gratitude two weeks after an ACS were independently associated with higher self-reported adherence and improved emotional well-being six months later. There was suggestion that optimism, but not gratitude, was associated with improved perception of cardiac symptoms. Optimism and gratitude may represent important constructs in recovery from an ACS, particularly with respect to adherence to health behaviors and psychological health. Future interventions to promote these positive constructs can be useful for improving functioning and well-being.

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B072

6:00 PM-7:00 PM

THE EFFICACY OF EXERCISE AS A TREATMENT FOR DEPRESSION IN ADULTS WITH CHRONIC ILLNESS: A SYSTEMATIC REVIEW

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Rationale: Depression is a common and serious illness that has been found to be more prevalent in patients living with NCD than in the general population. Current treatments for depression are not always efficacious, which has prompted studies to assess alternative treatments such as exercise. While there is some evidence of potential efficacy for exercise to reduce depressive symptoms, to our knowledge, there have been no systematic reviews that have assessed the efficacy of exercise as a treatment for depression in patients with a NCD.

Methodology: Studies assessing aerobic exercise interventions for adults with NCD that reported data on depressive symptoms or depression were included. The interventions had to last at least 4 weeks in length, with at least 2 sessions per week of at least moderate intensity. Searches were conducted in Pubmed, Medline, PsycInfo and SportsDiscus. Quality assessment was also assessed. **Results:** Sixteen studies with 4118 participants were included. Fourteen of the 16 studies were randomized controlled trials. Comparison conditions were usual care (n=13), use of antidepressants (n=2), or stress management (n=1). Interventions ranged from 2 to 5 times a week for 8 to 24 weeks. A significant effect of exercise on depressive symptoms were found in 11 studies, with 5 having null findings. Collectively, the studies showed a net 20% reduction in depressive symptoms in the exercise intervention groups compared to all other groups. Exercise resulted in similar reductions in depressive symptoms to stress management and in one of the pharmacological studies, with the other pharmacological study finding exercise reduced depression more than the antidepressant. **Conclusion:** Aerobic exercise is a promising efficacious intervention for reducing depressive symptoms in patients living with a NCD. However, better quality intervention studies are needed to confirm this.

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B073

6:00 PM-7:00 PM

FACTORS ASSOCIATED WITH ACCURATE PARENT PERCEPTION OF CHILD WEIGHT STATUS AMONG MEXICAN-ORIGIN IMMIGRANT FAMILIES

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Child obesity is a burgeoning problem in the US, and is associated with a number of harmful health outcomes in both child- and adulthood (Dietz, 1998). The prevalence of obesity is particularly high among Hispanic children (Ogden et al., 2014). Accurate parent identification of overweight status may allow for the correction of unhealthy weight behaviors, but research demonstrates that parents of overweight children often underestimate their child's weight status (Katz, 2015). Therefore, this study sought to assess parents' accuracy in judging child weight status, as well as specific cultural and psychological correlates of accuracy, among Mexican-origin immigrant families.

Data were collected in the homes of 86 families with a 6-10 year old (M=8.38). Child zBMI was calculated based on CDC growth charts (Kuczmarski et al., 2002). Parents provided reports of acculturation (Acculturation Rating Scale for Mexican Americans-II; ARSMA-II; Cuellar, Arnold, & Maldonado, 1995), stress (Hispanic Stress Inventory; HSI; Cervantes et al., 1991), and coping (Responses to Stress Questionnaire; RSQ; Connor-Smith et al., 2000).

Based on BMI for-age percentiles, 45% of participants were healthy weight (<85th percentile), 16% of participants were overweight (≥85th percentile), and 38% were obese (≥95th percentile). In order to analyze whether zBMI, acculturation, stress, and coping were associated with parental accuracy, a multivariate logistic regression was conducted. This revealed that parent accuracy was associated with child zBMI ($\beta = -.61$; $p < .05$), such that parents of heavier children tended to be less accurate in their perceptions, as suggested by the literature. Neither acculturation nor stress level was significantly associated with parent accuracy. However, parents who used more secondary control coping (e.g., cognitive restructuring) were less accurate ($\beta = -.1640$; $p < .05$), while parents who demonstrated more involuntary engagement (e.g., intrusive thoughts) were more accurate ($\beta = .2332$; $p < .01$). This directionality indicates that those with less adaptive coping and responses to stress were more likely to correctly identify child weight status. These results suggest that parent accuracy, as well as individual differences in coping and responses to stress, should be considered in interventions targeting child obesity in this population.

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B074

6:00 PM-7:00 PM

FACTORS ASSOCIATED WITH INTENTIONS TO LOSE WEIGHT AMONG BLACK AND WHITE EMERGING ADULTS WITH OVERWEIGHT AND OBESITY

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Background: Approximately 40% of young adults aged 18-25 are overweight or obese and experience the greatest rates of weight gain each year. Despite the high rates of overweight and obesity in this population, few young adults consistently participate in healthy lifestyle habits associated with weight loss. Understanding how multiple factors, including race/ethnicity, gender, and mental health, may influence participation in healthy lifestyle habits is important in designing interventions. **Method:** We surveyed college students about weight-loss intentions, weight-related attitudes, and anxiety. Weight and height were measured by trained research staff. Participants completed single items assessing their previous experience with setting weight loss goals ("I have set weight loss goals in the past year"), intentions to lose weight ("I intend to set weight loss goals this year"), and the Generalized Anxiety Disorder Scale. Associations and interactions between BMI (kg/m²), weight loss goals, intent to lose weight, and anxiety were examined using hierarchical multiple regression models. **Results:** A total of 102 (M=19.79, SD=1.88) college students participated in this study. 67% were Black, 33% White, and 68% were female. A hierarchical multiple regression model predicting intentions to lose weight after controlling for BMI (kg/m²), demographics (gender and race), and predictors (experience setting weight loss goals and anxiety) was significant, $F(5,96)=16.49$, $p < 0.001$, $R^2 = 0.43$. In the final step of this model, race ($\beta = -0.33$, $p < 0.01$), previous experience setting weight loss goals ($\beta = 7.41$, $p < 0.001$), and anxiety ($\beta = -2.51$, $p < 0.05$) were significant predictors of intentions to lose weight. **Discussion:** Findings suggest that experience with weight loss goals, race, and anxiety explains 43% of the variance in weight loss intentions. Given that intent is the antecedent to planned health behavior change, future interventions to increase healthy lifestyle engagement should explore culturally responsive ways to promote actual behavior change.

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B075

6:00 PM-7:00 PM

FEARING FAT: EXAMINING WEIGHT STIGMA'S RELATIONSHIP TO EATING BEHAVIOR

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Fear and stigmatization are often used as motivators for individuals to lose weight or eat healthfully. However, this strategy has been shown to be disadvantageous and can lead individuals to gain weight, can reduce behavioral restraint, and can often exert a negative influence on eating behavior. In the present study, we examined the relationship between weight-based stigmatization, fear of fat (FoF), and eating behavior in a diverse undergraduate sample (N = 91, 63.3% Latina/o). Specifically, we tested whether FoF mediated the relationship between weight stigma and self-reported eating behavior. Participants engaged in a laboratory study that involved completing measures assessing perceptions of weight stigma, FoF, eating behavior (i.e., binge, restrained, emotional, and externalized eating), and physical health. Results showed that perceptions of weight stigma were associated with increased binge eating ($b = .19$, $p < .01$), restrained eating ($b = .25$, $p < .01$), and emotional eating ($b = .26$, $p < .01$), but not with externalized eating ($b = .05$, $p = .99$). Moreover, FoF mediated the relationships between both weight stigma and binge eating ($b = .06$ CI: .02 to .12; Model: $F(1, 87) = 26.70$, $p < .01$, $R^2 = .38$) and weight stigma and restrained eating ($b = .15$ CI: .05 to .25; Model: $F(1, 87) = 24.12$, $p < .01$, $R^2 = .37$). Weight stigma's relationship to emotional eating was not mediated by FoF. Results suggested that perceptions of weight stigma exert some influence on maladaptive eating behaviors through FoF. These findings have important implications for our understanding of weight stigma and its consequences for eating behavior. Previous research has found that weight stigma, fear of fat, and rigid restraint eating contribute to weight gain. The current research builds on this by suggesting one mechanism through which this may occur. Many weight loss interventions and anti-obesity campaigns use stigmatizing language in efforts to motivate weight loss and increase healthy behaviors, but the current findings would suggest that such a strategy might be counterproductive.

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B076

6:00 PM-7:00 PM

FEASIBILITY AND EFFICACY OF AN IMAGERY INTERVENTION TARGETING STRESS, FOOD CRAVINGS, AND EXERCISE BEHAVIOR WITH OBESE WOMEN

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Women living in rural states are more likely to be overweight or obese compared to those living in more densely populated areas. While poor diet, physical inactivity, and chronic stress are risk factors for increased body mass index (BMI), the precise determinants of increased BMI remain poorly understood and cost-effective interventions to address this global public health challenge are needed. The present randomized, wait-list controlled trial tested the feasibility and preliminary efficacy of a multi-behavior guided mental intervention that targeted psychological stress, food cravings, and physical activity behavior. Forty-eight women enrolled and 35 completed ($M^{\text{age}}=45.50$, $M^{\text{BMI}}=31.43$) the 5-week trial with a pre- and post-test battery of valid and reliable measures that assessed leisure-time exercise, trait food cravings, and perceived stress. Each participant co-created 3 separate guided imagery scripts with health educators that focused on stress reduction, food cravings, and increased exercise. Participants were instructed to read each script daily and also engaged in weekly telephone conversations with their assigned health educator. Feasibility indicators showed that 73% of those enrolled completed the study and high compliance with daily practice of guided imagery ($M=31.2$ days). Finally, post intervention interviews revealed that 94% of the completers accepted the use of the guided imagery intervention and would continue using this technique in the future. Linear mixed effects models were performed including group-by-time interactions to ascertain preliminary efficacy. Significant improvements in leisure-time exercise ($p=.016$), reduced food cravings ($p=.022$), but non-significant changes in stress were observed. Guided imagery interventions represent a potentially cost-effective way to simultaneously target multiple health risk behaviors linked to obesity. Our evidence suggests that this approach could be particularly useful for women living in rural areas. Future trials that incorporate the use of web-based guided imagery delivery mechanisms and other technologies are recommended.

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B077

6:00 PM-7:00 PM

FOOD ENVIRONMENT SURROUNDING SCHOOLS AND CHILDHOOD OBESITY: A SYSTEMATIC REVIEW

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Objective. To examine the potential influence of the food environment near schools on childhood obesity. **Methods.** A systematic review was conducted to identify published literature on the association between the food environment near schools and weight status among children and adolescents. A keyword search of literature published in English between 1980 and 2015 was conducted using the PubMed database. Titles and abstracts for 961 studies were reviewed, with a full review on 30 of those studies to determine their relevancy. Studies were excluded if they did not specifically examine the food environment surrounding schools as related to childhood obesity. **Results.** Sixteen studies were selected for inclusion. Eight studies found an association in the expected direction; of these, 6 found that the food environment near schools was positively associated with children's body weight. One study found that distance of fast food outlets from schools was inversely associated with children's BMI, and one study found one additional healthy food item available along paths to school (i.e., within 100 m) was associated with smaller gains in BMI and waist circumference over 1 year. Five studies did not find an association, and 1 study observed that more food outlets near schools was associated with a decrease in BMI or weight. Two studies found mixed results. Outcomes included BMI, overweight and obesity, and BMIz scores. Study designs were correlational ($n=2$), cross sectional ($n=13$) and longitudinal ($n=1$). **Conclusions.** Although most studies observed that the food environment near schools is associated with childhood obesity in the expected direction, nearly all studies use cross-sectional data. Further research is needed to fully understand the longitudinal impact of the food environment near schools on childhood obesity.

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B078

6:00 PM-7:00 PM

FOOD REWARD SENSITIVITY, WEIGHT GAIN AND DIETING IN A NATIONALLY REPRESENTATIVE SAMPLE OF US YOUTH

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Food reward sensitivity may influence susceptibility to overeating in a permissive food environment, leading to weight gain and intentional weight loss behaviors. The purpose of this study was to estimate associations of food reward sensitivity, assessed by the Power of Food Scale (PFS), with weight outcomes and dieting in a nationally representative cohort of US emerging adults. Data come from the first 5 years of an ongoing study (Y1 = 10th grade, 2009-10), in which subjects completed surveys annually (2785 enrolled, 79% retention at Y5). BMI and weight status at baseline and Y5, and overall weight change ($WC = Y5 - \text{baseline weight}$), were calculated from self-reported height and weight. PFS and dieting (restricting eating to lose weight) were assessed at Y5. Linear and logistic regressions using survey estimation methods examined associations of weight outcomes (continuous BMI and WC) and dieting (binary) with PFS and baseline weight status, adjusting for height, physical activity, age, sex, race/ethnicity, family affluence and parent education. Separate models estimated the interaction of PFS with baseline weight status on outcomes. WC (mean \pm linearized SE) was $7.6 \pm .4$ kg, and was greatest in the obese baseline weight category (11.3 ± 2.2 kg). PFS was higher for females vs. males and decreased with increasing age. Y5 BMI was not associated with PFS. PFS was not associated with WC overall, but the association was larger in underweight ($\beta \pm SE = 2.1 \pm .6$, $p = .001$) vs. normal weight subjects ($.3 \pm .4$, $p = .50$). Odds of dieting were higher for overweight (OR, 95%CI = 2.14, 1.18 - 3.90) and obese (4.58, 2.66 - 7.86) vs. normal weight subjects, and were positively associated with PFS (1.41, 1.12 - 1.77). No interaction of PFS with baseline weight status was observed. While PFS was not associated with concurrent BMI, PFS was associated with increased weight gain in underweight subjects. The association of greater odds of dieting with higher PFS indicates the need for experimental work to clarify whether greater food reward sensitivity necessitates additional effort to control intake or if efforts to control intake result in greater sensitivity to food reward.

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B079

6:00 PM-7:00 PM

HEALTH KNOWLEDGE IS ASSOCIATED WITH INCREASED ACTIVITY LEVELS AMONG MIDDLE SCHOOL AGE HISPANIC GIRLS

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Introduction: Research suggests that greater knowledge of health risks and health information predicts the execution of healthy behaviors. While it has been shown that increased dietary knowledge is related to healthy nutrition behaviors, little is known about the relationship between physical activity health knowledge and activity levels. **Methods:** This project examined the association between baseline physical activity health knowledge and baseline activity levels of 72 middle school age Hispanic girls enrolled in a 3-week summer program emphasizing a healthy lifestyle. On the first day of camp, participants completed a questionnaire assessing their knowledge of health topics including 6 items that were related to physical activity. During the program, participants wore Fitbit Zip activity monitors to track their daily activity levels. Baseline daily steps walked were computed by averaging across the first three days of camp for each participant. **Results:** Multiple regression analyses suggest that baseline physical activity knowledge score ($M = 2.17$, $SD = 1.21$), and age ($M = 11.74$, $SD = .92$) accounted for significant variability in baseline daily step count ($M = 8,688.66$, $SD = 4,740.49$), adjusted $R^2 = .192$, $F(2, 69) = 9.42$, $p < .001$. At baseline, results indicate that, controlling for age, for every one-point increase in physical activity knowledge score, average daily step count increases by 1,786, 95% CI [931.96, 2640.24]. **Conclusion:** The results of the present study demonstrate that Hispanic girls with greater physical activity-related health knowledge are more likely to be more active. Efforts to increase physical activity in Hispanic girls are important to counter adolescent girls' risk for overweight and obesity due to puberty and lifestyle changes. As the findings indicate that increased health knowledge in children may be advantageous in promoting healthy behaviors in at risk populations, health promotion programs aimed at improving health knowledge are warranted and require evaluation of outcomes.

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B080

6:00 PM-7:00 PM

IMPACT OF A FAITH-BASED LIFESTYLE INTERVENTION "BUILDING A HEALTHY TEMPLE" ON PARTICIPANTS' HEALTH BEHAVIORS

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Introduction: Hispanics are disproportionately affected by obesity and its complications. In response to community needs, the Building a Healthy Temple (BHT) program, a faith-based obesity intervention, was implemented through the integration of spiritual and physical health promotion to foster healthy lifestyle changes among Hispanics. **Setting:** Predominantly Hispanic churches in San Antonio, TX, USA. **Intervention:** BHT was a 12-month intervention with multiple components including the creation/maintenance of a Health Ministry Committee to facilitate church nutrition and physical activity (PA) environmental and policy changes, health sermons delivered by the Pastor, health screenings; healthy Bible Study, Sunday School, Nutrition Education and Cooking Demonstration curriculums, and PA lessons. Using the Train-the-Trainer model, BHT was implemented by trained church lay leaders. **Evaluation:** A pre and posttest design was used to evaluate the program effects on PA level and eating behaviors. PA level was measured using the International Physical Activity Questionnaire short form. Dietary intake was evaluated using the Dietary Screening Questionnaire created by the National Cancer Institute. **Results:** BHT was implemented in eight churches reaching approximately 1000 people. Outcome data were collected from 195 participants with informed consent at baseline, and 130 at posttest (69% retention). Overall, there was a shift of participants in the "low" and "moderate" PA categories at baseline to the "high" category at posttest. Although this pattern was observed in both genders, such improvement was only statistically significant in females. Both added sugar and added sugar from sweetened beverages significantly reduced ($p=0.054$). No differences were observed in fruit and vegetable, whole grain or fiber intake. **Conclusion:** BHT improved participants' healthy lifestyle by increasing PA level and reducing intake of added sugar and sweetened beverages.

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CITATION AND MERITORIOUS AWARD WINNER
B081

6:00 PM-7:00 PM

INVESTIGATING CHANGES IN HOME MEDIA ENVIRONMENT AND CHILD WEIGHT STATUS IN A CHILDHOOD OBESITY INTERVENTION.

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Media availability and parenting strategies to reduce screen time have been correlated to childhood obesity. However, it is unclear the degree to which home media environment (HME) factors may inhibit or support positive outcomes from childhood obesity interventions, and predict changes in physical activity (PA) and weight. Guided by the social ecological perspective the purpose of this study was to investigate HME changes that occur as a result of a family-based childhood obesity treatment intervention (iChoose) and changes in child weight in a health disparate and medically under-served area - the Dan River Region of Southwest Virginia and Northern North Carolina. The program included a number of strategies including approaches to change the home environment by increasing opportunities for PA and reducing screen time. iChoose was pilot tested with 3 waves of families ($n=101$ children). We used the Children Home Environment Survey (CHES) and iChoose outcome data (child BMIz) in paired t-tests and multiple linear regression analyses. The CHES-Media was scored on a 0 to 1 scale with items subdivided in 5 subscales: Parental policies to monitor media (PPM), Screen time (ST), Media Availability (MA), Eating in from TV (ETV) and Exercise Opportunities in Media Space (EOMS). Subscales were further grouped in two domains: social and physical HME, and a final score was also calculated. Results showed improvements on ETV ($p < .001$) and EOMS ($p < .05$) subscales, as well as in the Social ($p < .001$) and Physical ($p < .05$) sub-domains of the CHES-Media instrument. Finally, MA ($p < .05$), ETV ($p < .05$), and physical ($p < .05$) subscales were significant predictors of child change in BMIz. A family-based childhood obesity treatment program appears to be successful in improving the home media environment. Initial findings indicate that media availability and eating while in front of a TV may be particularly important for child weight change. Future studies should investigate how these different domains may interact and potentially impact weight loss in a childhood obesity management program.

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B082

6:00 PM-7:00 PM

IS PROMPTING PROBLEMATIC?: CONSIDERATIONS FOR LONG-TERM ECOLOGICAL MOMENTARY ASSESSMENT

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Ecological momentary assessment (EMA) is a repeated sampling method that allows for in-the-moment data collection. The development of smartphone technology has made EMA a feasible measurement tool across a variety of fields in behavioral health. EMA can be especially useful to map participant behavior over time. However, EMA is not typically used for long study periods, with the average assessment ranging from 1-2 weeks. Researchers have cited concerns regarding reactivity and participant burden with study periods beyond 2 weeks. The current study sought to examine participant perceptions of long-term EMA, with a focus on these major concerns. As such, we conducted a 6-week study in which overweight participants ($n=12$) used a smartphone-based EMA app that administered 6 prompts per day to report on dietary in adherence at the beginning of a weight loss program. Participants underwent a semi-structured interview at the final assessment. Participant compliance was high (97.9%) and drop-out was minimal ($n=1$), indicating that participant burden was minimal. However, the frequency of dietary lapses reported by participant changed significantly over time ($p=.01$), indicating reactivity to be a significant issue. To examine participant perceptions and make improvements to the EMA app, a thematic analysis identified 13 key concepts present within participant interviews. The majority of participant comments were suggestions to clarify wording or remove irrelevant questions. With regards to reactivity, over half the sample described the questions as "helpful", with 6 participants reporting enhanced awareness and planning. With regards to participant burden, 2 participants described the app as "obtrusive" or "inconvenient", and 3 participants found the app to be "monotonous". Two participants reported technological problems that contributed to burden. To illustrate these themes, thematic network views and case studies will be presented. Overall, it appears that long-term EMA with a smartphone app is feasible and acceptable to participants. In particular, participants find study procedures more acceptable if they are able to provide comments and suggestions. Participant burden was relatively low, however, reactivity was a significant concern with this particular population.

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B083

6:00 PM-7:00 PM

LOGIN OF ONLINE SESSIONS PREDICTS RETENTION IN THE FAMILIES IMPROVING TOGETHER (FIT) FOR WEIGHT LOSS TRIAL

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Background/objectives. Paradata (time stamps, logins, page views) recorded during use of E-health programs (Krueter et al., 2010), offers a novel method to examine participant engagement in interventions (Resnicow et al., 2010). Limited research, however, has examined the application of paradata for health promotion interventions. The current study examines content selection and whether number of sessions completed and login duration were associated with participant retention in a tailored Families Improving Together (FIT) weight loss trial. **Method.** FIT is a randomized controlled trial testing the efficacy of a motivational and family based weight loss intervention in African American adolescents and parents. Weekly session content was tailored and paired with parenting skills: energy balance-active listening, sedentary behavior-you provide they decide, physical activity-escape hatch, volition, choice, fast food-reverse role play, fruits/vegetables-increasing engagement, and soda-push vs. pull each week for 8 weeks. African American parent-teen dyads ($N=127$; 95% female parents) including overweight teens (ages 11-16, $M=13.58$, $SD=1.75$; 67% female; BMI $M=31.36$, $SD=6.07$) have participated in FIT to date. Number of sessions completed (0–8), content selection and total login duration were examined. Participant retention was defined as obtaining primary outcomes at 6 months post intervention. **Results.** On average, participants completed 4.57 ($SD=3.08$) sessions with a range of 22-59% of participants selecting each topic. Logistic regression controlling for demographics, showed a significant effect for login rate on retention ($OR=1.21$, 95% $CI=1.06$, 1.39). Participants were 1.2 times more likely to be retained with completion of each additional session. Among treatment participants, total login duration was not associated with retention ($OR=1.01$, 95% $CI=.99$, 1.03). **Discussion** Paradata from the FIT online sessions predicted higher participant retention, suggesting that those engaged in online programs are more likely to be retained. Future research should investigate the effects of paradata on intervention outcomes.

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B084

6:00 PM-7:00 PM

LOSING AT WORK: EVALUATION OF AN EMPLOYER-SPONSORED PHONE AND WEB-BASED WEIGHT LOSS PROGRAM

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With the obesity rate rising in the United States in the past 30 years, there has been an increase in employers sponsoring weight loss (WL) programs to reduce health care costs and improve employee health. The present project evaluates the utilization and outcomes associated with Weight Talk[®], a telephone coaching and web-based WL program delivered by registered dietitians and weight loss coaches. The program includes 11 proactive counseling phone calls as well as a comprehensive website and support tools. The Weight Talk intervention is based on clinical guidelines and the intensive lifestyle intervention of the Diabetes Prevention Program. Data is presented from 9130 employees who enrolled in the program between 2012 and 2014 and who completed at least one coaching call. 2,530 of those participants completed a 6 month follow up survey. Weight was collected at baseline and at every call. Most recent weight was used as a proxy for 6 month weight for survey non-responders.

Most of the sample were female (74%) and the average age was 46 +/- 10.8 (range, 21 to 74). Eighty-four percent of the sample were obese at baseline (i.e., BMI ≥ 30). Participants completed an average of 5.45 +/- 3.60 counseling calls, including program calls and participant-initiated support calls. Number of website log-ins ranged from 0 to more than 150 ($m = 2.37$ +/- 11.18, median = 0).

Sixty-one percent of the 9130 program participants ($n = 5562$) lost weight and the average weight lost among those who lost weight was 9.22 lbs +/- 8.45 lbs. The goal of the program was to assist participants to lose 5 to 10% of their body weight. 18.6% (1699) of the participants met the goal of at losing $\geq 5\%$ of their body weight. Using logistic regression, we evaluated program utilization and demographics (age, gender) as predictors of $\geq 5\%$ WL. WL counseling calls was a significant predictor of $\geq 5\%$ WL ($OR = 1.29$, $p < .001$). Male gender also predicted weight loss ($OR = 1.342$, $p < .001$).

Phone-based weight loss programs offer a lower cost method of connecting employees to weight loss professionals such as registered dietitians. Increasing utilization is key to improving outcomes.

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B085

6:00 PM-7:00 PM

LOSING WEIGHT LIKE A MAN: REPORTED WEIGHT LOSS STRATEGIES FROM A MEN'S WEIGHT LOSS INTERVENTION

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Background: Men express preferences for weight loss programs that feature individualization; however, little is currently known about the specific weight loss strategies men prefer to use. The purpose of this study is to describe the weight loss strategies used by men prior to a weight loss program and changes in weight loss strategy utilization during the course of the intervention. **Methods:** This data comes from a randomized trial testing the efficacy of a men-only weight loss program as compared to a waitlist control group. Participants reported the frequency with which they used 45 weight loss strategies at baseline and 3 months. The list included strategies central to program recommendations (e.g., record weight), strategies mentioned in the program (e.g., reduce high calorie beverages), and strategies not mentioned in the program (e.g., follow a structured meal plan). Participants who reported using a strategy "much of the time" or "always or almost always" were considered to regularly use that strategy. **Results:** At baseline participants ($N=107$, 44.2 years, 31.4 kg/m², 76.6% white) reported regularly using 7.3±6.6 of the 45 strategies. The most commonly endorsed strategies were reducing fast-food, reducing sugar-sweetened beverages, and increasing lifestyle activity. The intervention group increased the number of strategies used to 19.1±8.3 at 3 months versus 7.1±6.1 for the waitlist group ($p < 0.01$). The intervention group reported increased use of all but one of the strategies recommended by the program (5 of 6 strategies), and increased use of one-quarter of the strategies not specifically recommended by the program (4 of 16 strategies). No change in regular use of weight loss strategies between baseline and 3 months was reported by participants in the control group. Participants in the intervention group lost more weight at 3 months compared to waitlist group participants (4.7±4.3 vs. 0.6 ±2.1 kg; $p < 0.01$) and this intervention effect was significantly mediated by the number of strategies used at 3 months. **Conclusions:** This study adds to what is known about men's preference for and use of weight loss prior to and during a formal weight loss program. This information will help future program developers create programs that utilize strategies that appeal to and are effective for men.

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B086

6:00 PM-7:00 PM

MECHANISM RELATED TO WEIGHT MANAGEMENT SUCCESS DURING A GROUP PHONE-BASED INTERVENTION FOR RURAL BREAST CANCER SURVIVORS

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Purpose: Obesity is highly prevalent in breast cancer survivors and is a significant risk factor for cancer recurrence and mortality. Weight management interventions for survivors have been diverse in their designs (group vs individual) and treatment delivery methods (in-person, phone-based) and have yielded inconsistent weight loss outcomes. Given these issues, intervention participants themselves may provide unique insight into treatment-based factors that contributed to their weight loss outcomes. Here we report qualitative results from interviews with rural breast cancer survivors participating in a weight loss intervention delivered through group conference calls, with the objective of identifying potential mechanisms that facilitated or hindered adherence and weight loss success. We also assessed willingness to pay as a marker of dissemination potential.

Methods: Individual interviews were conducted with 186 rural, obese breast cancer survivors upon completion of a six month phone-based group weight loss intervention. A thematic analysis of the interview data was performed. **Results:** Five themes emerged as impacting adherence and success: 1) accountability to the group and to self, 2) importance of the group, with varying levels of connectedness, 3) dietary convenience, 4) difficulty maintaining intervention components that required more effort, and 5) importance of self-perceived motivation to attributions of physical activity success or failure. Most (82%) reported they would be willing to pay to continue the program if it were extended beyond the study. **Conclusions:** These novel findings identify potential mechanisms related to weight loss intervention success specifically among breast cancer survivors and are largely consistent with the weight loss literature from the general adult population and in-person interventions. Importantly, participants' willingness to pay for continued program participation suggests that ongoing weight management efforts are valued in this population and highlights a potential venue for long-term care.

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B087

6:00 PM-7:00 PM

MEDIA PARENTING IN THE CONTEXT OF CHILDHOOD OBESITY RESEARCH: WHAT WE KNOW AND WHERE WE NEED TO GO

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Background/Objectives: Media and screen use are associated with childhood obesity, but it is not clear if research is keeping pace with the rapidly changing landscape of media and modes of parenting around devices. To capture the landscape of the literature, we assessed 1) specific media devices and media parenting practices measured; and 2) the extent to which studies measured aspects of the family social and emotional context likely to affect media parenting approaches. **Methods:** Our sample was drawn from a larger content analysis study which used a systematic process - consistent with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines - to identify and screen articles. Eligible articles were: focused on parenting and childhood obesity; published 2009-2014; written in English; and non-intervention studies that included parents as participants. Of the 4235 original articles, 74 were eligible for the present study because they measured media parenting and/or the home media environment. We used quantitative content analysis to code the full text of all articles; analyses were performed using SAS 9.4. **Results:** Eighty percent of articles measured media use, 84% measured media parenting, and 70% measured the home media environment. Although television was asked about in all articles measuring media use, child/parent use of laptops and tablets were not measured in any articles, and smartphones were included in only 3% of articles. Parent media literacy was not measured in 95% of articles. Almost no studies measured parent attitudes/beliefs about media use, self-efficacy to control screen use, or intention to change child media behaviors. Finally, the vast majority of articles (82%) did not measure any element of the family social/emotional context. **Conclusions:** More detailed measurement of media use that reflects current technology trends is needed to better understand parent regulation of child media exposure. Future research should also include measures of the family social/emotional context to more fully understand potential factors that may impact media parenting and, subsequently, child risk for overweight, in order to better inform the development of interventions to prevent and control childhood obesity.

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B088

6:00 PM-7:00 PM

METHODOLOGICAL QUALITY OF BEHAVIORAL WEIGHT LOSS TRIALS: A SYSTEMATIC REVIEW

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Recent scientific articles and popular press publications have questioned the quality of behavioral research in general and the utility of behavioral weight loss interventions in achieving meaningful weight loss. There have also been calls to increase focus on external validity in behavioral science. Given the importance of methodological rigor in informing practice, policies, and public perceptions and the importance of external generalizability for dissemination, this study evaluated the quality of behavioral weight loss trials published over a 5 year period, focusing on key indicators of internal and external validity, and examined if quality was related to weight loss outcomes. Behavioral weight loss trials with at least 100 participants (adults only) and 6 month or more follow-up were examined. PUBMED, MEDLINE and PSYCINFO were searched for trials published between January 1, 2009 and December 31, 2014. Study reference lists were also searched. A data abstraction protocol was implemented by 4 trained reviewers. Indicators assessed were: 1) inclusion of a CONSORT diagram; 2) measured weight and/or BMI; 3) inclusion of sample size calculations; 4) loss to follow-up approach; 5) 'as randomized' analysis; 6) sampling from a known population vs. a convenience sample; 7) report of treatment adherence; and 8) report of intervention fidelity. 92 articles were reviewed. The mean number of indicators achieved was 5.5 (median=6; range 1-8). Indicators most commonly reported were measured weight and height (96.7%), presentation of a CONSORT diagram (91.3%), 'as randomized' analytic approach (87%) and inclusion of sample size calculations (65.2%). Description of intervention fidelity (20.7%) and sampling from a known population (41.3%) were least common. Over two-thirds of studies (69.5%) used strategies to address loss to follow-up or had minimal missing data (69.5%): common approaches were last or baseline value carried forward (35.9%) and multiple imputation (25.0%). No quality differences were observed between studies that reported a statistically significant reduction in weight or BMI and those that did not. This review found published behavioral weight loss trials to be of moderate to high methodological quality, with variation across specific indicators.

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MERITORIOUS AWARD WINNER

B089

6:00 PM-7:00 PM

MOMENTARY ASSESSMENT OF THE ASSOCIATION OF STRESS AND AFFECT ON DIETARY INTAKE IN CHILDREN

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Background Diet is a modifiable health behavior implicated in childhood obesity. Emerging evidence suggests that stress and affect, both of which can vary on a momentary level, may relate to dietary intake. This study used the real-time data capture method of Ecological Momentary Assessment (EMA) to analyze the relationship between stress, affect, and dietary intake in a sample of children. **Methods** Participants included 126 children (51% female, mean age=9.6, range 8-12 years) enrolled in the Mothers and their Children's Health (MATCH) Study. Children responded to randomly prompted EMA surveys through a smartphone app up to 7 times per day over 7 days, excluding time at school. At each prompt, children provided information on their current perceived stress, positive (PA) and negative affect (NA), as well as stressors and dietary intake of target food items (Soda, Chips/Fries, Fast Food, Sweets/Pastries, Fruit/Veg) occurring over the past 2 hours. Multi-level logistic regression was performed to assess the likelihood of consuming each food item according to affective or stress state on between- (BS) and within-subjects (WS) levels. **Results** On a BS-level, greater average PA compared to others was associated with increased odds of consuming Fruit/Veg (OR=1.57, $p < 0.05$), more frequent stress from 'arguing with parents' (OR=1.77, $p < 0.05$) and 'having too many things to do' (OR=7.60, $p < 0.01$) was associated with increased odds of 'unhealthy' food consumption. On a WS-level, for a given child, stress over the past two hours from 'not doing well at something' relative to their average level of stress was associated with increased odds of consuming Sweets/Pastries (OR=2.13, $p < 0.05$), and stress from having 'a lot of homework' (OR= 1.90, $p < 0.01$), and having 'too much to do' (OR= 1.57, $p < 0.05$) was associated with increased odds of eating Fruit/Veg during that time. **Conclusions** Analysis reveals differing associations between affective states and stressors on dietary intake depending on whether the focus was on variation between or within participants, highlighting the importance of measuring these constructs on a momentary level.

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B090

6:00 PM-7:00 PM

OBESITY AMONG INDIVIDUALS WITH MIGRAINE

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Introduction: Among people with migraine, obesity is related to higher migraine frequency and severity. Further, obesity has been linked to the progression from chronic daily headache to chronic migraine, and to the progression from episodic (<15 days/month) to chronic migraine (≥15 days/month). The present study describes the association between obesity and migraine characteristics among patients in a migraine and headache specialty clinic. **Method:** Adults with migraine were recruited in the waiting room of the Montefiore Headache and Migraine Center. Participants provided informed consent prior to participating in a survey study, which included demographic questionnaires, headache symptom questions, and the Migraine Disability Assessment (MIDAS). Height and weight were obtained from medical records to compute BMI. Headache frequency was described as number of headache days in the past 1 month. **Results:** Participants (N=90) were mostly women (86%), with a mean age of 45.0 (SD=12.4), were mostly white (82%) and highly educated (50% graduate degree). The mean BMI was 26.7 and 29% of participants met criteria for obesity (BMI>30.0). Specifically, 15 participants had a BMI of 30.0-34.9 (obesity class I); 7 participants had a BMI of 35.0-39.9 (obesity class II); and 4 participants had a BMI > 40 (obesity class III). Pearson and Spearman's rho correlational analyses were conducted to assess the relationships between BMI and migraine variables. Participants reported a mean of 13 headache days in the past month (SD+ 12.9) and an average headache severity of 6.76 (SD + 1.9); 64% reported chronic headaches. Among the 66 participants who completed the MIDAS, 52% reported severe headache related disability. BMI was positively correlated to headache severity ($r=.29, p=.02$). In this sample, no significant relationship was found between BMI and headache frequency ($r=.12, p=.27$) or BMI and MIDAS score ($r=.02, p=.88$). **Conclusion:** Individuals with higher BMIs reported greater severity of headache, indicating that BMI may be related to headache severity. While these results warrant future study, these findings can inform clinical care of migraine, as weight loss or maintenance may be used to reduce headache severity.

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B091

6:00 PM-7:00 PM

OBESITY ATTITUDES AND HUMOR

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Background: People with obesity face numerous negative social consequences such as stigma and prejudice. This stigma exists in many domains including interpersonal relationships, work, school, and mass media. In television and film, characters with obesity are rare. When present, they are often the targets of humor and ridicule. Research has established that attitudes toward stereotyped groups can be affected by short-term exposure to stereotypical media portrayals. This study sought to uncover how humor and disparagement interact to affect individuals' attitudes about people with obesity. **Methods & Results:** In Study 1, participants were randomly assigned to read a list of derogatory jokes about obesity, read a list of derogatory comments about obesity, or read jokes that were unrelated to obesity. All participants were then asked to report their 1) attitudes toward people with obesity in several domains, 2) level of belief in stereotypes about obesity and 3) judgment of the social acceptability of jokes about obesity. Participants' scores on these dependent measures did not differ across groups. Study 2 was designed to 1) present participants with a stronger stimulus and 2) detect effects for the gender of the recipient of the derogatory humor. Participants were shown a compilation of video clips from film and television programs that featured derogatory humor targeting an obese character. They were randomly assigned to either watch videos that targeted female characters or watch videos that targeted male characters. Dependent variables were identical to Study 1. Participants' scores on these dependent measures did not differ across groups and there were no significant interactions between the independent variable and any participant characteristics. **Conclusions:** These results suggest that brief exposure to derogatory weight-related humor may not affect individuals' attitudes toward people with obesity. These results were evident for both written jokes and video clips presenting weight-humor.

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B092

6:00 PM-7:00 PM

OPTIMIZING DELIVERY OF A DISTANCE-BASED WEIGHT CONTROL INTERVENTION USING MOST

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Objective: Research has shown that maintaining a healthy weight has significant health benefits including increased quality of life and decreased disease risk (e.g. cardiovascular disease and certain cancers). Weight control interventions that include eating nutrient dense foods, limiting high fat/sugar foods, and increasing physical activity (PA) have shown significant health effects independent of weight control. However, delivery of a weight control intervention is difficult because of the time and effort required by participants and of staff to deliver the intervention. **Methods:** This pilot study of 25 adults used a Multiphase Optimization Strategy (MOST) to examine four distance-based weight control intervention delivery modalities in a 2X2X2X2 factorial design (telephone vs. email coaching, high vs. low self-monitoring of diet and weight, text messaging vs. no text messaging, social network vs. no social network). Participants were given a Fitbit and randomly assigned to one of 16 intervention conditions. Participants provided process evaluation data via questionnaire. **Results:** Preliminary results indicate a modest weight loss of .2kg and decrease in waist circumference of 1.3cm for all participants, a significant main effect in terms of waist circumference was found for the text messaging component ($p=.01$). Participants who did not receive text messages showed a greater decrease in waist circumference than those who received text messages. A main effect with respect to self-reported changes in minutes of moderate to vigorous PA was found for telephone vs. email coaching ($p=.04$); participants in the telephone coaching condition exercised more than the email coaching condition. **Conclusions:** Findings suggest that intervention components have different effects on different outcomes. Telephone vs. email coaching appears to have a similar effect on weight control, but telephone coaching appears to increase PA over email coaching. Additionally, text messaging may impede weight control efforts.

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B093

6:00 PM-7:00 PM

PATIENT AND PROVIDER ENGAGEMENT TO CULTURALLY ADAPT A TECHNOLOGY-MEDIATED LIFESTYLE INTERVENTION FOR LATINOS

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Background: Latinos are disproportionately represented among overweight/obese adults in the US. Despite evidence for primary care-based lifestyle interventions, few have been culturally adapted. Iterative stakeholder-driven adaptation is promising for developing culturally-centered interventions. **Methods:** We used an iterative process engaging patients and providers to culturally adapt the Group Lifestyle Balance (GLB) intervention, an evidence-based adaptation of the Diabetes Prevention Program lifestyle intervention. We interviewed 4 providers who serve Latinos and conducted 5 focus groups with overweight/obese Latino adults (n=34) to understand their attitudes and opinions regarding lifestyle interventions. We incorporated findings from interviews and focus groups into the GLB curriculum. A Latino Patient Advisory Board (n=11) further culturally adapted the GLB by actively taking part in the intervention and rating each session topic according to cultural congruence and relevance (1 not congruent/relevant) to 5 (highly congruent/relevant). Session topics with scores of 3 or lower were discussed and adapted. The Board met 16 times over 6 months. **Findings:** Provider interviews underscored a need for culturally adapted lifestyle interventions and the importance of accounting for diverse socioeconomic circumstances, such as physically demanding occupations. The importance of strategies for fostering family support and a willingness to use mobile and web technologies for self-monitoring were highlighted in focus groups. The Latino Patient Advisory Board was highly engaged with an average of 80% of participants attending each session. Board members reported a high level of cultural congruence and relevance, which they attributed to having a Latino facilitator, sessions being conducted primarily in Spanish, and social support from other Latinos. Key adaptations included adding a family orientation session, including a family member in the 5th session, introducing the mobile phone application and pedometer in the first session, and increasing use of visual aids for healthy eating. **Conclusions:** Providers and patients can be effectively engaged to culturally adapt a behavioral lifestyle intervention for Latinos. The culturally adapted intervention will be tested in a 2-year randomized controlled trial.

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B094

6:00 PM–7:00 PM

PATTERNS OF EXERCISE IN OVERWEIGHT/OBESE PRIMARY CARE PATIENTS WITH & WITHOUT BINGE EATING DISORDER

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Little is known about how the exercise habits of individuals with Binge Eating Disorder (BED) compare to their non-binging overweight/obese (NBO) counterparts. We examined differences in exercise self-efficacy and physical activity (PA) intensity in a sample of BED and NBO patients recruited from primary care. Adult participants (76.4% female; 27% BED) completed the Godin Leisure Time Exercise Questionnaire (PA reported as times per week) and the Marcus Exercise Self-Efficacy scale at baseline ($N=89$) and post ($N=81$) weight-loss treatment. Despite no differences in exercise self-efficacy at either assessment, we observed differences in their patterns of PA. At baseline, the NBO group reported more overall weekly PA (5.84 times; $SD=4.04$) than the BED group (4.00 times; $SD=3.02$): $t(52.7)=2.03$, $p=.05$. The difference was not significant at posttest. The NBO group reported a higher frequency of strenuous PA than the BED group at baseline (0.94 times, $SD=1.35$ vs. 0.43 times, $SD=0.84$ respectively; $t(61.9)=2.09$, $p=.04$) and at posttest (1.05 times, $SD=1.81$ vs. 0.14 times, $SD=.48$ respectively; $t(80)=-3.61$, $p=.001$). The same pattern held for moderate PA at both time points. At baseline, the NBO group engaged in moderate PA 1.92 times ($SD=1.9$) versus 0.91 times ($SD=1.24$) for the BED group: $t(59.1)=-2.88$, $p=.006$. At posttest, the NBO group reported engaging in moderate PA a mean of 2.21 times ($SD=2.73$) versus 1.15 times ($SD=1.35$) for the BED group ($t(66.1)=-2.31$, $p=.024$). We observed no differences in mild PA at either time point. This study suggests that individuals with BED may engage in less strenuous and moderately-intense PA than their non-binging counterparts before and after weight loss treatment. As these exertion levels are associated with the most health benefit, patterns of exercise among individuals with BED may contribute to the higher levels of obesity and poorer overall health frequently observed in this group. Future weight loss interventions may need to target increasing PA specifically within BED samples.

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B095

6:00 PM–7:00 PM

PATTERNS OF WEIGHT CHANGE IN A 12-MONTH BEHAVIORAL WEIGHT LOSS

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Background: Most participants in weight loss interventions regain weight within the first 12 months. We conducted a 12-month behavioral weight loss intervention with 24 group treatment sessions. This secondary analysis examined patterns of weight change over time, and their relationship to Self-Efficacy (SE) for maintaining a healthy lifestyle. **Methods:** Subjects were weighed at weekly sessions the first 3 mos, bi-weekly mos 4–6, and monthly during mos 7–12. They also completed a daily EMA assessment on their smartphone indicating their level of SE, i.e., confidence in maintaining a healthy lifestyle (0–10). We used change-point (CP) models to describe temporal variation among subjects, under which wt was modeled as a linear function of time between CPs and the rate of wt gain/loss changes at the CPs. Nonlinear regression was used to estimate the times of CPs and rates of wt gain/loss between CPs. **Results:** The sample ($N=150$) was 90.7% female, 79.5% White, averaging 51.2 (10.2) years of age with BMI of 34.0 (4.6) kg/m². Based on CP Models, subjects could be classified into 13 patterns of wt change; however, the majority of the sample (79.3%) was represented in 4 patterns: wt loss followed by maintenance ($n=41$, 27.3%), wt loss followed by wt gain ($n=32$, 21.3%), wt loss throughout ($N=27$, 18.0%), and wt loss followed by slower wt loss ($n=19$, 12.7%). During the initial period, subjects lost 3.5 ± 2.6 lbs/month; 92% lost wt during this period. There was no significant interaction between time (1st 6 mos vs 2nd 6 mos) and SE, but SE was related to wt loss: subjects lost a mean of 0.49 lbs/mo for each unit increase in SE (95% CI, 0.34, 0.62). The daily SE scores declined by a mean 0.75 over a yr, corresponding to an estimated 4.4 lbs reduction in potential annual wt loss. **Conclusions:** The majority of the sample in our study lost weight, and approximately 20% lost and regained. Increasing one's level of SE in maintaining healthy lifestyle habits might have improved weight loss, particularly for those who were not able to maintain the weight loss.

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B096

6:00 PM–7:00 PM

PERSPECTIVES OF AFRICAN AMERICAN DYADS IN WEIGHT MANAGEMENT: FEEDBACK FOR DEVELOPING THE FIT FOR WEIGHT LOSS INTERVENTION

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Background/Objectives: The prevalence of obesity in African American (AA) populations is a significant health disparity. Family-based weight management interventions for youth are efficacious; however, there is limited research on effective implementation in AA families. Further, few interventions have gathered formative qualitative data from AA parent/child dyads. Thus, this study obtained qualitative data from AA dyads to inform the Families Improving Together (FIT) for Weight Loss Trial. **Methods:** Eleven focus groups were conducted with AA dyads with an overweight teen (BMI% $>85^{th}$, age 11–15 years) at community sites. Focus group guides were developed to explore facilitators and barriers, motivators, and program preferences with probes to address systems of the socio-ecological model (e.g., individual, interpersonal, and community). Transcripts were independently coded, inter-rater reliability was calculated ($\kappa=0.76$), and consensus was reached. Coded transcripts were entered into NVivo Qualitative Software (NVivo QSR 7) to extract themes. **Results:** Qualitative data from AA parent ($n=30$; 100% AA) and adolescent dyads ($n=25$; 100% AA; mean age=12.4 \pm 1.1 yrs, mean BMI%=94) resulted in four main themes: 1) emphasize health promotion in weight loss programs, 2) social support and parental support, 3) individual, interpersonal, and environmental factors that contribute to weight, and 4) create convenient and fun programs that reduce barriers to participation. **Conclusions:** These findings guided the development of the FIT for Weight Loss Intervention that includes motivational, social support, positive parenting, and behavioral skill building in a brief family-based face-to-face program supplemented by a tailored online program for parents at home. This formative work suggests important individual, interpersonal, and community factors to consider when developing weight management programs for AA families to improve effectiveness, relevancy, and engagement.

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B097

6:00 PM–7:00 PM

PHYSICIAN-DELIVERED WEIGHT MANAGEMENT COUNSELING

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Introduction: Individuals with excess weight have increased morbidity and mortality compared to those of normal weight, and there are differences in disease risk between overweight and obese men and women. However, limited information on how physicians counsel these groups and on patients' experiences with weight management counseling (WMC) is available. The goals of this study are to describe specific WMC approaches provided to patients, benefits of these strategies, and WMC preferences as reported by study participants. **Methods:** 103 participants, stratified by BMI (overweight/obese) and gender, completed surveys. Survey questions focused on WMC approaches (eg. discussing diet), reported benefit, and WMC preferences for future care. Group differences were examined by Chi-square and Fisher's exact test ($p < 0.05$). **Results:** Participants reported receiving a wide-range of WMC, from discussions about diet to surgery. Overweight participants and women reported less counseling compared to obese individuals and men respectively. Compared to men, women reported fewer discussions about past weight loss attempts ($p=0.014$) and effects of weight on long-term health ($p=0.008$), among others. In general, participants found scheduling follow-up appointments most beneficial (72.8%). There were no significant differences by BMI or gender. Overall, participants most preferred that physicians increase support in generating specific strategies to assist in weight loss (74.8%) and in helping them to develop specific weight loss goals (65.1%). By gender, men most preferred more discussions about diet (68%) and women preferred the development of weight loss goals (67.9%). Both overweight and obese participants (68.6% and 80.7% respectively) sought more development of weight loss strategies. **Conclusions:** This appears to be the first cross-sectional study comparing patients' WMC experiences and preferences, stratified by BMI and gender. Results demonstrate that regardless of BMI and gender, patients want more WMC, with preference for certain strategies. Differences were noted between groups.

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B098

6:00 PM-7:00 PM

PILOT TEST OF A MHEALTH WEIGHT MANAGEMENT INTERVENTION FOR BREAST CANCER SURVIVORS

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Behavioral interventions for cancer survivors can prevent future cancer recurrence and increase long-term health; but their translation can be limited if the intervention is complex and involves high participant burden. Mobile health (mHealth) offers a modality to integrate behavioral interventions into daily life routines. The objective of this study was to evaluate the effects of a one-group trial with a pre/post evaluation design on physiological (weight); behavioral (diet and physical activity); and engagement (use and satisfaction) outcomes. Prior to implementation, interviews were conducted with 4 survivors to gain their perspectives on intervention design. The intervention consisted of mHealth components (wireless devices to track weight and steps daily; use of FitBit® mobile application to view data; daily text messages to provide simple feedback on diet), and 4 motivational interviewing-based phone sessions with a non-professionally trained counselor. Participants were overweight breast cancer survivors who had completed treatment and owned a smartphone. Ten women participated; they had a mean age of 59 (SD=6), 50% belonged to a racial/ethnic minority group, 50% had some college or less, and 40% reported using Medicaid health insurance. Although there were no statistically significant changes in outcomes from baseline to 10-week follow-up, mean weight decreased (182.5 to 179.1), fruit and vegetable daily servings increased (2.89 to 4.42), moderate physical activity increased in MET minutes per week (2791 to 3336), and median daily steps increased (8777 to 9821). Engagement was high: out of 70 days total, mean number of days recording steps via the FitBit wristband was 64 (SD=7), recording a weight via the scale was 45 (SD=24), and responding to text messages was 60 (SD=13); 100% of participants completed all 4 calls with the counselor. Most (90%) were very likely to participate again and recommend the program to others. Findings support future research of mHealth as a feasible intervention modality for breast cancer survivors. Future research should employ accelerometer-based physical activity assessment and consider development of an all-in-one app to integrate devices, messaging, and educational content to coordinate behavioral changes for weight management.

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B099

6:00 PM-7:00 PM

A CELLPHONE APP TO ENGAGE WOMEN IN BALANCE TRAINING

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Decreased balance subtly occurs as women age. Poor balance and lower extremity weakness are risk factors for falls and fractures. Balance training can be incorporated into daily activities and enhanced by altering visual input (eyes open/closed) and surfaces (uneven, soft or firm). Balance is easily tested by timing structured, progressively challenging activities. We designed and deployed a dynamically tailored person centered cellphone app for osteoporosis prevention in healthy women ages 40-60. The aim is to describe the development of the balance dimension of the app and women's use of the app and achievement of short term balance outcomes. A subgroup of a RCT of 290 women (Striving to be Strong) was given the app, iPhone, and monthly service. The app guided balance testing using a timed standardized progression (feet together, eyes open then eyes closed) and then single leg balance (eyes open/closed). Based on assessment results women were assigned a "level" of balance with access to videos with audio and written instructions for exercises with repetitions and sets to perform. Exercise completion and self-reported difficulty were used to provide participant feedback and automate the rate of progression of the exercises. The app recorded all participant initiated interactions including use of informational and self-regulation content, testing sessions, and results and progression through the levels. Preliminary data indicate 95 of 129 women used the app during the first 3 months; 74% in the Striving (SG) and 26% in Personal Choice Group (PC). Of these women, 50% completed a balance assessment (SG=47.3%; PC=58.8%). Many completed the balance assessment more than once (SG=42%; PC=35%) and saw an improvement in their balance (SG=79%; PC=42%). Approximately 1/3 of the women in the Striving Group continued taking balance assessments over the 12 month duration of the study. Preliminary results provide support for continued exploration and testing of balance using person managed eHealth technology.

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B100

6:00 PM-7:00 PM

A PATH MODEL ON NEUROPSYCHIATRIC SYMPTOMS, DAILY FUNCTION, MEMORY, AND PERCEIVED STRESS IN SCHIZOPHRENIC PATIENTS IN HONG KONG

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Background: The relationships between neuropsychiatric symptoms and daily functioning, memory, and perceived stress are commonly analyzed bivariate and multivariate. The present study aimed to explore interdependencies of clinical determinants on daily functioning and perceived stress in patients with chronic schizophrenia. **Methods:** A total of 146 residential schizophrenic patients in a long-term care hostel provided data on psychiatric symptoms, deficits on motor coordination and sequencing, digit spans, daily living functions, and perceived stress via validated questionnaires, psychiatric interview, and assessments. Indirect effects from the psychiatric symptoms to perceived stress via a series of potential mediators were examined using bootstrapping. **Results:** All of the symptoms showed significant indirect effects on perceived stress via the mediators. Motor deficit and activities of daily living mediated the indirect effects of negative, excitement, and depression symptoms on perceived stress. Sequencing deficit and forward digit span mediated the indirect effects of positive, negative, and cognitive symptoms on perceived stress. The model explained 15.2% of the variance in perceived stress. **Discussions:** This study suggests indirect pathways from psychiatric symptoms to subjective perceived stress in schizophrenic patients via neurological deficits, daily functioning, and memory. Structural equation modeling could be performed in future studies to disentangle and identify a complex model of direct and indirect pathways of clinical determinants on psychological outcomes.

Learning Objectives:

1. Identify the potential pathways from psychiatric symptoms to subjective perceived stress
2. Summarize the mediating roles of neurological deficits and digit spans in the model

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B101

6:00 PM-7:00 PM

"MAKING ENDS MEET" AND HEALTH: DOES FINANCIAL WORRY MEDIATE THE ASSOCIATION BETWEEN FINANCIAL HARDSHIP AND SELF-RATED HEALTH?

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It is well established that socioeconomic status (SES) is positively associated with health; however, the specific mechanisms that underlie this association are not well understood. Recent research has begun to explicate the association between SES and health by offering an expanded notion of socioeconomic circumstances including indicators of financial well-being. Results have shown an independent association between indicators such as financial hardship and health, even after controlling for traditional measures of SES. Psychological distress has been proffered as a potential pathway linking financial hardship and health; however, the results from this research have been equivocal, suggesting that a financial domain indicator of distress (e.g. financial worry) might be a better mediator of the association between financial hardship and health. The purpose of this study was to determine the association between financial hardship and self-rated health (SRH) and to determine whether a general measure of psychological distress or a financial domain indicator of distress, such as financial worry, attenuates this association. Cross sectional analysis was conducted using baseline data from the Financial Well-Being and Health Study (N=421), a quasi-experimental study investigating the influence of financial education and counseling on financial behaviors of clients of a financial empowerment organization. The baseline survey was administered from January-April 2015 across 23 metropolitan cities. Multivariable logistic regression was used to obtain the odds of reporting low SRH (rating health as either fair or poor). Results showed that after controlling for demographic and socioeconomic characteristics, those reporting financial hardship had a 3.36 higher odds (CI: 1.72-6.57) of reporting low SRH compared to those not reporting financial hardship. After adding financial worry to the model, the odds were slightly attenuated with those reporting financial hardship having a 3.01 higher odds (CI: 1.47-6.20) of reporting low SRH. Subsequent models replacing financial worry with a general psychological distress measure also attenuated the association, where those reporting financial hardship had a 2.61 higher odds (CI: 1.31-5.17) of reporting low SRH. Our results suggest that the general psychological distress measure helps to better explain the association between financial hardship and low SRH.

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B102

6:00 PM-7:00 PM

AN MHEALTH INTERVENTION TO SUPPORT LATENT TB INFECTION TREATMENT COMPLETION: CONTEXTUAL FACTORS INFLUENCING IMPLEMENTATION

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Background Mobile health (mHealth), the use of mobile phone technology to deliver health care, is an emerging area of disease management that has shown benefit in assisting with patient adherence to prolonged treatment regimens. While adoption of such accessible and affordable interventions has been met with great enthusiasm, little is known about the process of implementing an intervention as an operational program. We aimed to determine the contextual factors that influenced the adoption, implementation and sustainability of an mHealth program at two tuberculosis clinics in Canada. **Methods** A multi-site, randomized controlled trial is testing the effectiveness of a text-messaging intervention to improve Latent Tuberculosis Infection (LTBI) treatment completion in British Columbia (WellTel LTBI). Data collection was guided by the Consolidated Framework for Implementation Research (CFIR). It involved a review of team-meeting notes over a three-year period; documentation of time spent recruiting participants and responding to participant text messages; and stakeholder interviews with individuals at the patient-, provider-, and administrator-level. Interview transcripts were reviewed by two researchers who coded concepts and experiences using NVivo9 software. Data were analyzed using inductive thematic analysis. **Results** Between 2014–2015, 29 interviews were conducted with 21 patients, five clinicians and three administrators. Data analysis identified five key domains: 1) acceptance of the intervention; 2) patient needs and available resources; 3) compatibility of the program with the institution; 4) stakeholder engagement; and 5) attitudes of stakeholders. While there was general acceptance of the intervention by stakeholders, they expressed a desire for an intervention that could be tailored to meet changing patient and clinic needs, integrated into existing clinical IT systems, and requires few resources. **Conclusion** By integrating the intervention into an existing clinical setting, stakeholders gained valuable insight into what will be required if effectiveness is shown and the intervention is implemented programmatically.

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B103

6:00 PM-7:00 PM

ASSESSMENT OF MARITAL QUALITY AND HEALTH IN THE AGING POPULATION

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Objective: This study examines a population of older adults to look at the role of marital quality as determinants of physical and mental health at 7-10 year follow-up. **Method:** Participants from the Midlife in the US (MIDUS) national longitudinal study of health and wellbeing who were age 50 and older at follow up were included for analysis. Regression analyses were performed to assess the effect of spousal support on mental and overall health. Covariates included age, education level, income, depression levels and prior health condition. **Results:** There were a total of 2,298 mature adults included in the study. As expected, prior health status was the best predictor of future health. After adjusting for the covariates, we found no significant effect of spousal support on overall physical health. Examining only those in their first marriages similarly showed no significant effect of spousal support or strain on physical health. However, spousal support had a positive significant effect on mental health for both first and other marriages. **Conclusions:** Despite past research showing a relationship between marital quality and health outcomes, this study of an older population did not support the claim that spousal support or strain can be tied directly to physical health outcomes. However, it supports evidence that higher levels of spousal support and strain are associated with mental health effects, even after controlling for prior depression levels. These results suggest that among older individuals, the relationship between marital quality and physical health evident in prior research might be mediated by an effect of marital quality on mental health or other variables.

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B104

6:00 PM-7:00 PM

ASSOCIATIONS BETWEEN PATIENT ACCESS TO ELECTRONIC MEDICAL RECORDS, REGULAR HEALTHCARE PROVIDERS, AND QUALITY OF CARE RATINGS

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With the increasing prevalence of electronic health records (EHRs), due in part to the legislation of the EHR Incentive Program through the Centers for Medicare and Medicaid Services, this type of health information technology (HIT) stands both to engage patients as active participants in their health care and to improve the quality of care delivered. The program's Meaningful Use Stage 2 criteria include granting patients the ability to view, download, and transmit their EHRs; however, there is no current empirical evidence to assess whether patients are in fact being offered access to their EHRs and also to understand the association between access and the quality of the care they receive. To investigate these issues, we used data from the fourth iteration of the National Cancer Institute's Health Information National Trends Survey (HINTS 4, Cycle 4). Data were collected from July through November 2014 through a mailed survey; 3,370 complete surveys were returned, yielding a response rate of 34.4% (48.3% male; 83.1% aged 18–64). Of those who responded, 1,464 (42.1%) reported having been offered any access to their EHRs by either their healthcare provider or by their insurer; of those offered access, 59.0% accessed their EHRs at least once. Adjusting for sociodemographic and healthcare-related factors, multivariate linear regression models found that being offered access to EHRs was associated with higher ratings of quality of care (Wald F = 8.26; $p < 0.01$), as was having a regular healthcare provider (Wald F = 25.88; $p < 0.01$). No association was found between having ever accessed an EHR or frequency of access (Wald F = 0.87; $p = 0.4916$) and ratings of quality of care (Wald F = 2.71; $p = 0.1061$); however, having a regular provider was associated with improved quality of care ratings in both models (Wald F = 26.44 and 26.25, $p < 0.0001$ and < 0.0001 , respectively). These findings have important implications moving forward with development and implementation of patient-centered learning health systems and HIT.

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B105

6:00 PM-7:00 PM

BARRIERS TO SUSTAINING PATIENT AND NURSE ENGAGEMENT WITH A MOBILE HEALTH APPLICATION IN A MULTIPLE SCLEROSIS OUTPATIENT CLINIC

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Background: Growth in the mobile applications market for prompt and personalized patient-clinician communication and care coordination for chronic diseases has been rapid, but the impact on patient behaviors and outcomes is inconclusive. **Objective:** To explore multiple sclerosis patients' and nurses' engagement and satisfaction with a mobile application (CareIO, a pseudonym) that had been implemented for 15 months at a multiple sclerosis treatment center to facilitate patient-clinician communication on symptom management. **Method:** A mixed methods case study, utilizing interviews, observations, documentations, surveys and system usage data from May to July 2015. Survey responses ($n=72$) between CareIO users and non-users were compared using ANOVA. **Results:** 55% patients engaged with CareIO. Patients found the educational content and care plan tasks provided on CareIO to static and redundant. Instead, some found value in using CareIO as a 'journal' to facilitate recall of changes in condition between treatments. There was no statistically significant differences for quality of life outcomes (adapted MSIS-29 survey) and patient satisfaction between CareIO users and non-users and across levels of engagement. Nurses were critical of CareIO. 80 % did not use it. Nurses saw it as time consuming, though it only took fifteen minutes daily to review and follow up alerts. Although the information captured on the application could affect clinical care, nurses, as primary clinical users of CareIO, felt that it was not their responsibility to act on the information. **Conclusions:** This study identified interdependencies between user groups that exist in mobile health applications. Patients were dependent on nurses to create personalized care plans, dynamic and relevant educational content and engage in communication through CareIO. Low nurse engagement led to questions about how use of the mobile application could be sustained over time

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B106

6:00 PM-7:00 PM

CAN MINDFULNESS PROMOTE BEHAVIORAL CHANGE? A SECONDARY ANALYSIS FROM THE BREATHEASY STUDY.

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Background The role of mindfulness in promoting behavior change is still relatively unexplored. We examined the relationship between dispositional mindfulness and readiness for behavior change, confidence and motivation to quit smoking. **Methods** This was a longitudinal analysis from the Breatheasy study, an ongoing clinical trial providing 12 weeks of behavioral therapy for smoking cessation with either yoga or a wellness control condition. Data from 174 adult smokers (56% women, mean age 46 SD=12) were used in this analysis. Measures included mindfulness (Five Factors of Mindfulness), readiness to quit (Stage of Change), confidence in quitting, and motivation (single items each measuring confidence and motivation on a scale from 1 to 10). Covariates included demographics, general health, pulmonary symptoms (from the American Thoracic Society questionnaire), and nicotine dependence (Fagerstrom). Regression analyses using a series of generalized linear models were used to test the association between readiness, confidence, and motivation to quit (RCM) at end of treatment as a function of baseline mindfulness scores, controlling for baseline values and subsequently to test the effect of mindfulness on the probability of increasing RCM from baseline to end of treatment. The Breatheasy study was approved by The Miriam Hospital Institutional Review Board. **Results** Average mindfulness scores at baseline were 52.12 (SD=8.25, range: 17-73). Regression results showed significant positive effects of mindfulness on mean readiness ($B=0.10$, $SE=0.03$, $p<.01$); confidence ($B=0.11$, $SE=0.03$, $p<.01$), and motivation ($B=0.11$, $SE=0.03$, $p<.01$) to quit at the end of the intervention. Furthermore, higher baseline mindfulness was associated with greater odds of increasing motivation over time ($B=0.14$; $SE=0.05$, $p<.01$, $OR=1.15$). **Conclusion** In this cohort, dispositional mindfulness was predictive of readiness, confidence and motivation to quit smoking at the end of treatment. These findings suggest an important role of mindfulness skills in the promotion of behavioral change.

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B107

6:00 PM-7:00 PM

CONCORDANCE OF MULTIPLE HEALTH BEHAVIORS AMONG ENGAGED COUPLES

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Relationship partners are gaining attention as important sources of influence on daily health behaviors. Partners discuss beliefs, negotiate daily plans, and engage in behaviors together. Further, motives other than health may, at times, cause some spouses to undermine their partner's efforts to be healthy. Long time spouses are concordant on health outcomes and behaviors, particularly substance use and dietary habits. Less is known about the health behavior similarity of couples earlier in their relationship which can inform causes of similarities (e.g., assortative mating vs. shared environment) and be considered within preventative intervention development for young adults. In the current study, data was collected from both partners in 218 couples ($N=436$). Participants were mostly young adults ($M=28.2$ years) who had been together for years ($M=3.9$ years) and were cohabitating (85%); 9% were same-sex couples. Univariate and multivariate approaches to concordance were considered. Within couples, smoking ($\phi=.59$, $p<.01$), alcohol ($\phi=.26$, $p<.01$), dental visits ($\phi=.25$, $p<.01$), diet ($\phi=.22$, $p<.01$) and influenza vaccination ($\phi=.16$, $p<.02$) were significantly associated. Latent class analyses of binary indicators (healthy/not healthy) of smoking status, alcohol use, dietary monitoring, physical activity, influenza vaccination, dental visit, and sleep supported a 3 class model (entropy=.77). Class 1 (19.5% of sample) was generally healthy except for diet, class 2 (48.3% of sample) had healthy diets but low vaccination and dental visits, and class 3 (32.1% of sample) was likely to be in the unhealthy category across behaviors. Half (49.1%) of couples contained partners in the same class; likelihood of being in the same class did not relate to same-sex status, relationship length, age or cohabitation status. Considering class membership of both partners allows for categorization of six kinds of couples (e.g., 1 1, 1 2, 2 3); successful health behavior intervention strategies may depend on the type of couple as determined by both partners' patterns of health behaviors. Examining multiple health behaviors and dyadic relationships provides a broader context for understanding health behavior.

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B108

6:00 PM-7:00 PM

CORRELATES OF EMERGENCY DEPARTMENT USE AND PRIMARY CARE PARTICIPATION: A QUALITATIVE ANALYSIS OF ILLINOIS MEDICAID PATIENTS

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Inappropriate emergency department (ED) use plagues healthcare in terms of ineffective disease management, lack of patient wellness, and soaring costs. In 2012, the State of Illinois implemented Medical Home Network (MHN) where Medicaid recipients were assigned to primary care providers to, in part, reduce an overreliance on already stressed EDs. However, MHN patients have continued to use EDs.

Study Objectives: While previous research has focused on quantitative data sources such as patient medical records and surveys, scarce knowledge exists regarding the patient perspective on ED use while employing qualitative methodology. The purpose of this study is to provide an in-depth examination of Medicaid patient-identified barriers to primary care, facilitators of ED use, and related mental health and psychosocial factors using one-time, individual interviews. **Methods:** Fifty patients who presented themselves to the ED located at an urban, academic medical center participated in one-time, individual interviews. Participants arrived to the ED with non-urgent, minor, or moderate acuity. Interviews were digitally audiorecorded and transcribed for data analysis. **Results:** We analyzed data using the Grounded Theory approach. We identified four themes: 1) barriers related to visiting a primary care provider (scheduling issues); 2) elements of ED use (the experience of physical pain); 3) mental health and stress (a lack of willingness to discuss mental health issues); and 4) varying perceptions of primary care and the ED (the ED provides care that is fast, solution-oriented, team-based, and patient-centered within an environment containing necessary equipment). **Conclusions:** Findings may inform interventions such as the use of community health workers as liaisons between MHN, the ED, primary care, and patients. Addressing patient perceptions regarding the role of primary care and stigma surrounding mental health can lead to decreasing ED use and increasing continuous primary care use for vulnerable patients.

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B109

6:00 PM-7:00 PM

CORRELATES OF OBJECTIVELY MEASURED SEDENTARY BEHAVIOR IN BREAST CANCER SURVIVORS

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Background: Emerging evidence indicates increased sedentary behavior is associated with poorer health outcomes and quality of life among cancer survivors. However, very little is known about what factors are associated with increased sedentary behavior. The purpose of the present study is to prospectively examine potential correlates of sedentary behavior among breast cancer survivors. **Methods:** The associations between demographic (age, education, income, race, ethnicity, employment status, number of comorbidities and body mass index), disease specific (menopausal status at diagnosis, treatment received, time since diagnosis, stage of disease and disease recurrence) and psychosocial (fatigue, depression, anxiety, well-being) factors at baseline and the average daily proportion of time spent sedentary estimated by accelerometry at 6 months were examined using hierarchical multiple linear regression analyses in breast cancer survivors [$n=342$; $M_{age}=56.7$ ($SD=9.4$)]. All models adjusted for objectively measured moderate and vigorous intensity physical activity and sedentary behavior at baseline. **Results:** Overall, the model was significant [$F(24,317)=9.9$, $p<0.05$] associated with increased sedentary behavior among breast cancer survivors: working at least part time, higher number of comorbidities, more advanced disease stage, having received radiation therapy and increased fatigue severity. There was a borderline significant ($p=0.05$) relationship between increased anxiety and increased sedentary behavior. **Conclusions:** This study provides preliminary insight into factors associated with sedentary behavior in breast cancer survivors. Future research is warranted to understand the potential demographic, disease-specific, psychosocial correlates of sedentary behavior to determine which correlates are potential mechanisms of behavior change and intervention targets.

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B110

6:00 PM-7:00 PM

CORRELATES OF SELF-RATED HEALTH AMONG OEF AND OIF VETERANS

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Research demonstrates an association between self-rated health and mortality such that poorer self-rated health is associated with increased mortality risk. Compared to civilians, Veterans are significantly more likely to report Poor health, yet less is known about what factors are most associated with poor health ratings among Veterans. This study examined biopsychosocial and demographic factors associated with self-rated health among Veterans who served during recent conflicts. Data were derived from 666 veterans (55% female) participating in the survey portion of the Women Veterans Cohort Study. Self-reported biomedical factors [pain intensity (BPI) and BMI], mental health [presence of PTSD (PCL-M) or depression (PHQ-9)], social support (MOS), and health behaviors [alcohol use (6 or more drinks in one occasion), smoking (5 packs/lifetime), and vigorous physical activity (1x/week or more)] were included as correlates in logistic regressions of self-rated health (SF 12-V; collapsed into Poor vs Good). Consistent with prevalent research, models were gender-stratified. Results revealed no gender differences among Veterans in self-rated health ($p=.50$). For women, pain intensity (AOR .75; 95% CI .65, .87), and mental health diagnosis (AOR .40; 95% CI .21, .78) significantly decreased the likelihood of rating one's health as Good, whereas physical activity (AOR 2.04; 95% CI 1.12, 3.73) increased the likelihood of Good ratings. For men, pain intensity (AOR .74; 95% CI .63, .88), mental health diagnosis (AOR .28; 95% CI .13, .59), and BMI (AOR .91; 95% CI .84, .99) decreased the likelihood of rating one's health as Good, whereas, physical activity (AOR 2.23; 95% CI 1.08, 4.60) increased the likelihood of Good ratings. With respect to potential vulnerabilities, results were largely consistent across gender with the exception of BMI (men only). Engagement in vigorous physical activity may be particularly important for promoting health and resilience among men and women Veterans; further exploration is needed to determine if physical activity protects against correlates of poor self-rated health (i.e. negative affect and pain intensity).

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B111

6:00 PM-7:00 PM

CREATION OF THE LIFESTYLE HEALTH-RELATED SELF-CONCEPT QUESTIONNAIRE

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Self-concept is a determinant of behavior change, as it has been found to distinguish among both health ratings and behaviors (Thomas & Moring, 2014; Wiesmann, Niehorster, Hannich, & Hartmann, 2008). Health-related self-concept (HRSC) indicates both positive (i.e., promote well-being) and negative (i.e., decrease adaptive health behavior) factors associated with health. Thus, HRSC may expedite or hinder lifestyle change. The purpose of this study was to create a scale specific to dimensions of HRSC and lifestyle change activities. An existing scale, the Generalized Health-Related Self-Concept Questionnaire (Weismann et al., 2008), was modified to measure HRSC in the context of lifestyle change. Scale construction procedures were: 1) creation of new items that indicate HRSC and lifestyle change activities, 2) review of new items by a content expert, 3) test of new items with a small sample of individuals, and 4) test of new items with a large sample of individuals. A total of 101 college students completed the new survey, the Lifestyle-HRSC. Item-total correlation coefficients were 0.50 or higher indicating the items correlated well with the overall scale. Inter-item correlations ranged from 0.40 to 0.99. The reliability coefficient for the total scale was 0.99. The inter-item and reliability analyses indicated potential redundancy among items. Kaiser-Meyer-Olkin (0.93) and Bartlett's sphericity tests ($X^2=19735.16$ [df= 2926], $p < 0.01$) indicated the sample met criteria for factor analysis. Principle component factor analysis was performed using varimax rotation with Kaiser normalization. Factor analysis revealed six dimensions, though the majority of items loaded on the first factor. The new scale will be tested further within a lifestyle change intervention with a larger community sample and results will be compared to the current study. Lifestyle-HRSC dimensions may distinguish individual success/failure in lifestyle intervention participation (i.e., reaching desired health outcomes) and may provide additional insight into the initiation and maintenance of health behavior change.

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B112

6:00 PM-7:00 PM

HEALTH SELF-EFFICACY AMONG POPULATIONS WITH MULTIPLE CHRONIC CONDITIONS

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Patients with multiple chronic illnesses face significant demands in managing their illnesses. Effective patient self-management has been linked to improvements in health outcomes for a number of chronic conditions and prior research has consistently identified self-efficacy as playing a critical role in patient self-management.

We analyzed data from the Health Information Trends Survey, a cross-sectional survey of the U.S. adult population collected in 2012-2013, to assess the association between chronic illness burden and health-related self-efficacy. Self-efficacy was measured with a single item "Overall, how confident are you about your ability to take good care of your health?" We assessed the prevalence of the following chronic conditions: diabetes; hypertension; cardiovascular disease; chronic lung disease; and depression/anxiety.

A total of 3,630 respondents completed the questionnaire (response rate=40.0%). Ratings of health self-efficacy decreased with increasing chronic conditions. The mean rating of health self-efficacy (100 point scale) was 76.7 among those with zero chronic conditions, 72.5 among those with one, 63.3 among those with two and 64.2 among those with three or more conditions (p

Lower ratings of health self-efficacy among those with more chronic conditions point to the need for social and behavioral interventions to promote self-efficacy among patients with significant disease burden.

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B113

6:00 PM-7:00 PM

I KNOW WHAT I THINK ABOUT EXERCISE, BUT DO MY SPOUSE'S ATTITUDES MATTER?

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Background: It is well known that one's own attitude often predicts one's own behavior, but does one's spouse's attitude predict one's own behavior? Performance of exercise may in part be socially-determined (e.g. you exercise if you have a buddy; you don't exercise because your spouse would rather watch TV together). We examined links between one's spouse's attitude towards exercise and one's own exercise behaviors. We also examined whether mere perception of spouse attitude predicts one's own behaviors. **Method:** As part of a larger study, we recruited 47 married couples. In each dyad, both partners rated their own, and their perception of their spouse's, attitude towards exercise, as well as their own self-reported weekly exercise behaviors. **Results:** One's own exercise attitude was associated with exercise *duration* ($p \leq 0.01$) and *intensity* ($p \leq 0.01$), but not exercise *frequency* ($p=0.2$). Spouse's actual exercise attitudes were not associated with one's own exercise *duration* ($p=0.8$) or *intensity* ($p=0.7$), but was associated with one's own *frequency* ($p \leq 0.01$). Perceptions of spouse attitudes was not associated with *duration* ($p=0.8$), *intensity* ($p=0.4$), or *frequency* ($p=0.2$). **Conclusions:** While one's own attitude predicted duration and intensity, it was spouses' actual attitudes (not merely perceptions) that predicted the frequency (# of days) of exercise. National guidelines recommend adults engage in moderate-intensity exercise at least 30 minutes/day, on 5+ days each week. The frequency of exercise may be more important for health than how long or intense the exercise session was, as people could be engaging in very long and strenuous exercise only 1 day or less each week, and miss out on the benefits that come from less intense (e.g. brisk walking) or shorter sessions on more days of the week. With spouse attitudes being more predictive of one's own frequency of exercise, if the goal is to get individuals more physically active in general, interventions targeting just one's own exercise attitudes and behavior may be less effective than a more dyadic approach.

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B114

6:00 PM-7:00 PM

IDENTIFYING PERCEPTIONS ABOUT PHYSICAL ACTIVITY: AN EXPLORATION OF SALIENT BEHAVIORAL, NORMATIVE, AND CONTROL BELIEFS

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Regular physical activity (PA) participation has been associated with multiple health benefits. However, less than 20% of Canadian adults achieve the Canadian Society for Exercise Physiology's (CSEP) recommendation of 150 minutes per week of moderate to vigorous intensity PA. Guided by the Theory of Planned Behavior, beliefs associated with engaging in regular PA within three populations were examined: (1) inactive individuals, (2) active individuals, and (3) triathletes. Inactive individuals were defined as adults who did not meet CSEP's PA recommendation ($n = 42$, $M = 53.80$ years, $M = 35$ minutes of PA per week). Active individuals were defined as those who successfully met CSEP's PA recommendation ($n = 46$; $M = 50.09$ years, $M = 312$ minutes of PA per week). Triathletes ($n = 52$, $M = 47.77$ years) had all completed at least one triathlon. They were a group who greatly exceeded CSEP's PA recommendation of 150 minutes per week ($M = 667$ minutes of PA per week). Data were analyzed using thematic content analysis. Using the categories outlined in the Theory of Planned Behavior, common themes associated with engaging in regular PA were identified among the three groups, including: the advantage of improving physical health and mental well-being; the disadvantage of time constraints; the barrier of accessibility; and the facilitator social support. Regarding social norms, all groups identified more positive normative pressures than negative normative pressures in support of their PA behavior. Differences in beliefs between the three groups were also noted. Both the triathlete and active groups identified the benefit of longevity more frequently than the inactive group. Another difference noted was that social benefits were identified as an advantage by triathletes more often than by either the active or the inactive groups. Identifying differences in beliefs between groups of active and inactive individuals may facilitate the production of health promotion strategies to encourage the engagement of PA in individuals who are not meeting current PA recommendations.

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B115

6:00 PM-7:00 PM

INDIVIDUAL AND ENVIRONMENTAL CORRELATES OF PHYSICAL ACTIVITY AMONG US EMERGING ADULTS

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Background: Regular physical activity (PA) has numerous beneficial health outcomes. However, determinants of PA-based energy expenditure among emerging adults are understudied. **Purpose:** To assess individual and social contextual correlates of PA-based metabolic equivalent (MET)-minutes among US youth. **Methods:** The data ($N = 2159$, mean age = 19.16 years) were from wave 4 (one year post high school in 2013) of the longitudinal NEXT Generation Study, with a nationally representative sample. Participants were asked to recall average weekly time (none, 10-59 minutes, 1-2, 3-4, 5-7, and 8+ hours) of regular PA during the last month and the portion of vigorous PA (none, some, and most) for 20 activities (e.g., work related, basketball, biking). Activities were coded to reflect MET values using the 2011 Compendium of PA. MET-minutes were calculated by total PA minutes \times respective MET values. The independent variables included individual (sedentary behavior, body weight status, PA planning) and social contextual (peer engagement in PA, school status, work status, and residence) correlates. The MET-minutes distribution was skewed with a large number of zeros, thus we examined 1) variables associated with reporting any vs. zero MET-minutes, and 2) among those reporting more than zero MET-minutes, linear correlates of the MET-minutes. The SAS finite mixture models were structured to simultaneously handle the zero inflated distribution and use a log normal transformation. **Results:** Peer PA (odds ratio [OR] = 1.36, 95%CI [CI]: 1.01 1.83) and PA planning (OR = 1.79, CI: 1.39 2.31) were positively, and sedentary time (OR = 0.85, CI: 0.74 0.98) was negatively, associated with reporting above-zero weekly MET-minutes compared to zero weekly MET-minutes. Among those with above-zero MET-minutes, being male (Beta [B] = 0.29, CI:0.17 0.40), being part-time (B = 0.23, CI:0.11 0.35)/full-time working (B = 0.43, CI:0.26 0.61) vs. not working, living on own (B = 0.19, CI:0.02 0.35) vs. living at home, and higher scores of peer PA (B = 0.17, CI:0.13 0.22) and PA planning (B = 0.28, CI:0.24 0.32) were associated with higher MET-minutes. **Conclusion:** Individual correlates are related to getting any versus no PA and both individual and social contextual correlates are related to the amount of PA-based energy expenditure in the form of MET-minutes.

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B116

6:00 PM-7:00 PM

INDIVIDUAL, INTERPERSONAL AND GAME-EXPERIENCE CORRELATES OF ACTIVE VIDEOGAMES IN CHILDREN

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Research suggests that active videogames (AVGs) may assist with increasing physical activity in children. However little is known about how children's individual characteristics, interpersonal relationships and experience of AVGs drive engagement to determine who will benefit most. This study aimed to examine individual correlates of AVG use in children to inform interventions. Child participants between the ages of 8–14 years ($n=98$; 39% female; 60.2% racial/ethnic minority; 50% overweight/obese) and a parent completed measures. Children logged their use of AVGs for 1 week. Separate multiple regression analyses were conducted to explore 3 types of possible predictors of AVG use: 1) individual (i.e., age, gender, race/ethnicity, temperament, AVG self-efficacy); 2) interpersonal (i.e., parent & peer social support for AVG use); and 3) AVG-experience-related factors (i.e., sensory & imaginative immersion, flow, competence, positive & negative affect, tension, challenge). Results suggest that younger children [$B=-0.69$ (95% CI -1.09, -0.29); $t=-3.40$, $p=0.001$] and those with greater AVG self-efficacy [$B=0.41$ (95% CI 0.08, 0.73); $t=2.47$, $p=0.02$] played AVG games more often, explaining 13% of the variance in use. In the interpersonal dimension, greater parent support for AVG play was positively associated with AVG minutes [$B=0.39$ (95% CI 0.15, 0.63); $t = 3.27$, $p = 0.001$], explaining 10% of the variance in use. For the experience-related factors, children who felt more challenged when playing AVGs, played them more [$B=0.26$ (95% CI 0.08, 0.45); $t=2.80$, $p=0.006$], which explained 8% of the variance in use. Results support the use of AVGs to increase physical activity for younger children and provides guidance for targeting AVG self-efficacy and parental social support in AVG interventions. Designing AVGs that appropriately challenge children may be crucial to sustained use of AVGs and physical activity.

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B117

6:00 PM-7:00 PM

INFLUENCE OF MVPA AND SEDENTARY TIME ON WEIGHT LOSS DURING AN ABBREVIATED WEIGHT LOSS PROGRAM

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The benefits of physical activity for weight maintenance are well established; however it is unclear how changes in moderate-to-vigorous intensity physical activity (MVPA) or sedentary time contribute to weight loss within an abbreviated behavioral weight loss program. **Purpose:** To determine whether changes in MVPA and sedentary time influence weight loss at 6 months. **Methods:** Adults ($n=96$) 18-60 years with a BMI between 30-40 kg/m² were randomized to 1 of 3 weight loss conditions: Standard (STND), Technology-Supported (TECH), or Self-Guided (SELF). No differences in activity were observed between STND and TECH so groups were combined (Intervention). The Intervention groups received 8 group sessions, regular coaching calls, and self-monitoring tools over the 6 months. SELF received 1 group session and the Group Lifestyle Balance DVDs. Participants were classified as either increasing (>0) or decreasing (≤ 0) MVPA and sedentary time at 6 months based on objective activity data obtained from an Actigraph 7164 accelerometer. Controlling for age, gender, and intervention, we examined 6-month weight loss between those who increased or decreased MVPA and sedentary time. **Results:** Participants were primarily female (87.5%), White (57.3%), and were 40.1 \pm 10.7 years with a BMI of 34.8 \pm 2.8. At baseline, participants obtained 47.0 \pm 23.7 min/day of MVPA and spent 59.4 \pm 9.5% of the day sedentary. A total of 83 participants (86.5%) completed the 6-month assessment ($n=57$ intervention [89.1%], $n=26$ SELF [81.3%]). Weight loss at 6 months was -13.0 lbs (-6.8%) for intervention and -5.0 lbs (-2.3%) for SELF. The difference in weight loss between those who increased MVPA and those who decreased MVPA trended in the expected direction, however was not statistically significant ($p=0.068$). Similarly, participants who decreased sedentary time lost significantly more weight than those who increased sedentary time ($p=0.04$). **Conclusion:** The results of this study suggest the importance of increasing activity levels (both increasing MVPA and decreasing sedentary time) for weight loss within an abbreviated weight loss program.

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B118

6:00 PM-7:00 PM

INTER-INDIVIDUAL DIFFERENCES IN SELF-REGULATION OF EXERCISE: A LATENT PROFILE ANALYSIS

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The construct of self-regulation consists of general and domain-specific components, however little research has examined the interplay of multi-dimensional trait-like aspects, i.e., affective, behavioral, cognitive, and physical activity-specific self-regulatory strategies. An exploratory latent profile analysis was conducted to examine inter-individual differences in a wide array of self-reported self-regulation as a predictor of exercise adherence, a primary outcome of the Cognitive Regulation Training and Exercise (CORTEX) trial. The aim of the CORTEX trial was to test a novel multi-modal cognitive training on exercise adherence among middle-aged adults. Self-regulation was based on composite scores of 4 questionnaires: the *Physical Activity Self-regulation Scale* (PASR-12), the *Barriers-specific Self-efficacy Scale* (BARSE), subscales from the *Brief Self-control Scale* (BSCS) and the *Volitional Components Inventory* (VCI). A 3-class (subgroup) solution was selected based on the lowest Bayesian Information Criteria (BIC=3653.60) and bootstrap likelihood ratio test=35.92, $p<0.01$; entropy=.81. Each subgroup showed distinct patterns in general and activity-specific self-regulation at baseline. Class 3 ("High Self-Regulators," $n=29$; 21.80%) differed from class 1 ($n=10$; 7.52%) and class 2 ($n=94$; 70.68%), showing patterns of low impulsivity and high restraint with self-control behaviors, greater self-efficacy for overcoming barriers to exercise, and the highest exercise adherence rates (57.42%). Attendance for class 1 (33.39%) and 2 (40.38%) did not significantly differ, yet patterns of multiple dimensions of self-regulation varied, and graded increase in PASR-12 corresponded with increased adherence. These findings have theoretical and practical implications. Specifically, the findings call into question the domain-specificity of self-regulatory functioning. Potential benefits of screening for "low self-regulators" at the onset of exercise programs will be discussed.

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B119

6:00 PM-7:00 PM

IS PHYSICAL ACTIVITY A PART OF WHO I AM? A REVIEW AND META-ANALYSIS OF IDENTITY, SCHEMA AND PHYSICAL ACTIVITY

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Two parallel literatures on the physical activity (PA) identity and schema construct have the potential to supplement traditional social cognitive approaches used for PA promotion. The construct is thought to represent what PA means in one's social, cultural and personal context and is hypothesized as situation-activated and reflexive, making it a potentially unique source of behavioral motivation when compared to traditional reasoned action. The purpose of this paper was to review schema/identity research and appraise its relationship with PA via meta-analysis followed by thematic analyses of its purported antecedents and consequences, as well as its proposed mechanisms on PA. Eligible studies were from English, peer-reviewed published articles that examined identity and/or schema in the context of PA. Searches were performed from December 2014 to June 2015 in five databases including Medline, PsychINFO, PubMed, Scopus, and SPORTDiscus. Sixty-two independent datasets (31 available for meta-analysis), primarily of medium quality, were identified. Results of the meta-analysis showed that the point estimate between identity/schema and behavior was $r = .48$ (CI= .460-.490), and follow-up moderator analyses by the methods employed showed no significant effects. The thematic review showed that identity/schema may be dependent on commitment, ability, affective judgments, perceived benefits and social comparison. It had reliable evidence as a moderator of the intention-behavior relationship and as a correlate of intention independent of traditional social cognitive variables. Finally, there was good evidence to support that identity/schema is associated with increases in the speed of processing of relevant information and creates negative affect under hypothetical identity-behavior discrepant situations. Overall, the results support continued theoretical and applied research on identity/schema with more robust designs, objective physical activity assessment, and broader population samples.

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B120

6:00 PM-7:00 PM

LATENT PROFILES OF YOUTH PHYSICAL ACTIVITY ACROSS LOCATIONS AND LACK OF COMPENSATION

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Objective: To examine whether youth have consistent levels of physical activity (PA) across locations or if compensation occurs, and whether youth cluster into groups based on PA locations. **Methods:** 546 youth ages 12-16 (50% boys, 31% non-White) wore a GPS and accelerometer for 7 days to measure minutes of moderate-to-vigorous PA (MVPA) in the: (1) home, (2) home neighborhood, (3) school, (4) school neighborhood, and (5) all other locations. MVPA time was divided by total time spent in each location. Pearson correlations were used to test associations among the percentage of time spent in MVPA in each of the locations. Latent class analysis was performed using the same percentage variables. **Results:** On school days, percentage of time spent in MVPA at home and school were positively correlated ($r=.11$). Percentage of time spent in MVPA at school was also positively correlated with time spent in MVPA in home neighborhoods ($r=.12$) and school neighborhoods ($r=.19$) and in other locations ($r=.13$). Percentage of time spent in MVPA in the home neighborhood was positively correlated with percentage of time in MVPA in the school neighborhood ($r=.26$) and in other locations ($r=.18$). Findings were similar for non-school days. Two latent classes emerged on school days; 94% of participants fell into one class with the following percentages of time spent in MVPA: home=4%, school=5%, home neighborhood=10%, school neighborhood=8%, other=6%. The smaller class had a substantially larger percentage of time spent in MVPA in home (22%) and school (54%) neighborhoods and in other locations (25%), and 30% more total MVPA (51 vs. 39 minutes/day). **Conclusions:** Youth who are more physically active in one location tend to be more active in other locations, refuting a compensation hypothesis. There was a subset of youth who had substantially more MVPA in home and school neighborhoods and in "other" locations, and 12 more minute/day of total MVPA. Findings suggest potential for increasing youth PA through neighborhood-based activities and active travel.

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B121

6:00 PM-7:00 PM

LEADERSHIP IN RECREATIONAL PHYSICAL ACTIVITY: A SYSTEMATIC REVIEW

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Background: The class leader is a potential determinant of physical activity (PA) behavior. Still, the last review on leadership and PA is more than 2 decades old, research was mostly atheoretical and positioning was largely from observational data. The purpose of this review was to update the literature on leadership and recreational PA and to examine the state and quality of the evidence. **Method:** The review followed PRISMA guidelines and includes studies published up until May 2015 in Medline, PsycINFO, PubMed, SPORTDiscus and CINAHL, including experimental, observational and qualitative studies. Inclusion criteria were 2-fold: 1) study of leadership, and 2) adults in recreational PA. Themes for narrative synthesis were identified by support from at least 3 studies. **Results:** Database searching yielded 1079 potential articles; 22 studies (9 experimental, 11 observational, and two qualitative) met eligibility criteria. Themes included the role of PA leadership on program adherence (4-16.5 weeks; $n = 7$), and potentially important antecedents to adherence: intention to return following a single bout (ITR), except in 2 cases (following 4-10 weeks; $n = 6$), enjoyment ($n = 5$) and group cohesion ($n = 3$). Adherence results were mixed. Greater adherence was linked to leadership in 3 studies (unreported to large effects) and via qualitative follow up, yet 3 studies showed no meaningful or significant relationship between leadership and PA. No effect was seen for ITR. The effect of leadership on enjoyment was inconclusive. Group cohesion variables mediated the relationship between leadership and adherence, satisfaction and affect. **Conclusion:** Experimental studies, many with a theoretical base ($n = 6$), have helped improve the quality of this literature since the last review. These additional studies suggest the link between leadership and continued PA is inconclusive and leadership does not seem related to ITR, despite mixed results on a link with PA enjoyment and fairly consistent effects on group cohesion variables. It may be that leadership is not a strong enough factor to affect PA. Still, the current evidence is limited by largely female samples and lack of follow up on PA behavior. Future study could use leadership with enjoyable programs and self-regulatory techniques, access male samples and follow up on PA behavior.

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MERITORIOUS AWARD WINNER B122 6:00 PM-7:00 PM

LEISURE-TIME PHYSICAL ACTIVITY AND SOCIAL NETWORK SUPPORT AMONG LATINAS: THE MODERATING ROLE OF EDUCATION LEVEL

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Introduction. Few studies have used a social network approach to explore the mechanisms behind support and physical activity (PA). The purpose of this study is to use Latinas' social networks to explore the role of PA support on leisure-time moderate-to-vigorous activity (LTMVPA). **Methods.** Baseline surveys were collected from 436 Latinas enrolled in a church-based PA intervention (N=16 churches). Self-reported LTMVPA was dichotomized into no LTMVPA vs. any LTMVPA. Latinas named up to 6 people (alters) who had provided them with PA support in the past 6 months. For each alter, Latinas reported their gender, relation, ways they provided support, amount of support provided, and satisfaction with the support. Dyads (N=1,938) were generated between each Latina and alter. Logistic regression analyses were conducted to assess the association between alter characteristics and participant LTMVPA, using generalized estimating equations to adjust for multiple observations per participant. **Results.** After adjusting for church level fixed effects and demographic characteristics, the following alter characteristics were related to LTMVPA: exercises with you (OR: 1.82, CI: 1.39-2.39), plans around your exercise schedule (OR: 1.86, CI: 1.18-2.91), takes over chores so you can exercise (OR: 1.96, CI: 1.32-2.91), and takes care of your children while you exercise (OR: 2.25, CI: 1.18-4.27). Latinas with \geq high school education were more likely to engage in LTMVPA when alters exercised with participants (OR: 3.20, CI: 2.09-4.90) and planned around their exercise schedule (OR: 3.06, CI: 2.20-5.46). However, Latinas with < high school education were more likely to engage in LTMVPA when alters took over chores so they could exercise (OR: 2.69, CI: 1.53-4.73) and took care of children while they exercised (OR: 2.75, CI: 1.48-5.11). **Discussion.** Latinas with lower levels of education may benefit more from tangible methods of support for PA while Latinas with higher levels of education may benefit more from direct involvement in PA. To better promote LTMVPA, interventions should be tailored to consider participant education.

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B123 6:00 PM-7:00 PM

LINKING PATIENTS WITH COMMUNITY RESOURCES: USE OF A FREE YMCA MEMBERSHIP AMONG LOW-INCOME WOMEN

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Introduction: Physical inactivity is common among Black women living in rural areas. This increases their risk of experiencing many chronic health outcomes. This research is important as there has been interest in expanding obesity prevention efforts to include coverage of community-based programs. Thus, research is needed to determine if patients will access community-based resources to increase physical activity. **Methods:** Women participating in a randomized controlled trial of a multi-component intervention designed to prevent weight gain among overweight and obese Black women randomized to the intervention arm (n=91) received a no-cost annual membership to a local YMCA. Bivariate analyses examined the association between baseline psychosocial, contextual, health-related, and sociodemographic factors and activation of membership, as well as frequency of YMCA use. **Results:** 70.3% (n=64) of women activated their no-cost YMCA memberships; 42.2% (n=27) of whom had no subsequent visits and 46.9% (n=30) had only 1-10 visits logged over the 12-month intervention period. None of the examined psychosocial, contextual, health-related, and sociodemographic predictor variables were associated with activation of membership. The bivariate analyses examining utilizations (no visits, 1+ visits) determined that individuals living below/borderline the federal poverty line were more likely to visit the gym after activating their memberships, as were participants who met the federal guidelines for physical activity at baseline when assessed by accelerometer. **Conclusion:** Among Black overweight or obese women motivated to enroll in an intervention that included a free YMCA membership, activation of memberships was high, but utilization of memberships was low. More research is needed to determine how to get people to use community-based resources when distributed for free as part of an intervention.

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B124 6:00 PM-7:00 PM

MAKING ONE-SIDED DECISIONS: THE BIASING INFLUENCE OF EXERCISE-RELATED COGNITIVE ERRORS

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Background: Biased thinking may encourage poor health practices, as suggested by the cognitive errors model. Exercise-related cognitive errors (ECEs) are theorized to be biased processing of exercise-relevant information. Individuals expressing stronger ECEs report weaker adherence cognitions (e.g., lower self-regulatory efficacy, lower exercise intention). However, the influence of ECEs on actual processing of information still requires demonstration. **Purpose:** Our purpose was to examine whether differential levels of ECEs affect individuals' information processing about an exercise decision-making situation. **Method:** Participants (N = 138; M_{age} = 27.15; 76.8% female) responded to a controlled online stimulus and questionnaire. Direction of attention and interpretation about the exercise situation were compared between greater and lesser ECE individuals. Participants read about an exercise decision-making situation, then listed their thoughts about it, and reported their adherence cognitions relative to being in that situation (e.g., self-regulatory efficacy, affect, decisional struggle). **Results:** Higher ECE individuals demonstrated multiple attentional and interpretational biases in response to the exercise situation. For example, the higher ECE group primarily focused on negative situational content. The high ECE group's proportion of hindering to facilitating content was a disproportionate 5.6 to 1 versus the low ECE group's 1.22 to 1. The high ECE group reported lower self-regulatory efficacy (d=1.65), lower affect (d=1.16), and greater struggle (d=1.15; all ps < .001). **Conclusion:** Higher ECE individuals displayed biased processing of exercise-relevant information, as hypothesized via the cognitive errors model (e.g., exclusive attention to negative information, interpreting the situation as more difficult). Processing such one-sided information may work against exercise decisions and behaviour. Biases that make exercise decisions difficult and impede action may require attenuation through cognitive reframing intervention.

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B125 6:00 PM-7:00 PM

MIND WANDERING, AFFECT AND SEDENTARY ACTIVITY: AN ECOLOGICAL MOMENTARY ASSESSMENT

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The purpose of the present study was to assess associations between mind wandering, affect and sedentary activity in college-aged adults via smartphone-based ecological momentary assessment (EMA). Participants completed 16 hourly assessments of mind wandering and affect over 7-days and wore an accelerometer during waking hours. Each participant also completed a qualitative interview at the end of 7-days. Data were aggregated based on days of valid accelerometer wear, representing a "typical day" of 16 observations per participant. Analyses were conducted using multilevel models and interviews coded using inductive thematic analysis. 36 participants (75% female; 20.5 \pm 1.54 years) completed the 7-day EMA. Participants reported spending 35.9% of the day engaged in mind wandering and concurrently reported lower affect (p < .001, d=0.39) during these times. Participants reported engaging in an average of 52.68 \pm 4.15 minutes of sedentary activity per hour (87.8%). However, a quadratic (Est=0.054, p < .001) main effect suggested diurnal variation. Specifically, sedentary activity decreased at midday and increased in morning and evening. Quadratic (Est=-0.028, p=.003) 3-way interactions with mind wandering and affect further suggested: 1) participants with low mind wandering and high affect engaged in less morning and more evening sedentary activity (Est=-0.096, p < .001); 2) those with low mind wandering and low affect engaged in a steady amount of sedentary activity throughout the day (Est=0.019, p=.279); 3) those with high mind wandering, regardless of low (Est=-0.03, p < .001) or high (Est=0.060, p=0.010) affect, engaged in more morning and less evening sedentary activity. Qualitative analyses suggested participants had begun to make associations between attentional and affective states in relation to their daily physical activity levels. Findings suggest sedentary activity may be differentially predicted throughout the day by both mind wandering and affect regulation.

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B126

6:00 PM-7:00 PM

MIND WANDERING, SLEEP, AND PHYSICAL ACTIVITY: RESULTS OF AN ECOLOGICAL MOMENTARY ASSESSMENT

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The purpose of the present study is to examine the relations between mind wandering, sleep quality, and moderate to vigorous physical activity (MVPA) in college-aged adults via smartphone-based ecological momentary assessment (EMA) methods. Participants wore an accelerometer for 7 days during waking hours and were prompted via text message each hour ($N = 16$ prompts/day) to complete a brief survey. These surveys asked participants each hour to self-report on mind wandering and the previous night's sleep quality. Finally, each participant completed a qualitative interview following the study period. Data were aggregated based upon days of valid accelerometer wear, ultimately representing a "typical day" of 16 observations per participant. Analyses utilized forward-stepping multilevel models, and significant interactions were decomposed via simple slopes analyses. Thirty six participants (50% White; 75% female; mean age 20.5 ± 1.54) completed the one week assessment period. Within this sample, race was associated with MVPA such that non-white individuals were less active ($Est = -0.508$, $p < .001$). Within any given hour, greater reported mind wandering was associated with lower MVPA ($Est = -0.711$, $p = .004$). An interaction between time and mind wandering ($Est = -0.074$, $p = .005$) suggests that reported mind wandering was associated with less MVPA, particularly in the latter part of the day. An additional interaction between mind wandering and sleep quality ($Est = 0.33$, $p = .043$) indicated that better sleep quality and less mind wandering are associated with greater rates of MVPA. Qualitative analyses of participant interviews further support these findings (e.g., "[I noticed I feel]... fatigued in the afternoon, I don't know why... [I] definitely need to get more sleep because that's a big factor."). Taken together, these results suggest that both mind wandering and sleep quality are associated with MVPA in college-aged adults.

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B127

6:00 PM-7:00 PM

MOTIVATION FOR EXERCISE AMONG NURSING AND NON-NURSING UNDERGRADUATES

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Studying nursing increases students' knowledge of health-promoting behaviors through a curriculum based on wellness development and illness prevention. Despite this, there have been mixed findings in regard to engagement in behaviors such as exercise among nursing (NS) and non-nursing (non-NS) students. Though the research on NS has been limited, prior studies examining college students' overall motivations to exercise found general health and fitness, stress reduction, enjoyment, and recuperation as common motives.

Present study examined differences among NS ($N = 129$) and non-NS ($N = 188$) in Exercise Motivations Inventory-2 (EMI-2), grouped into five subscales (weight and shape, social aspects, health related motivation to exercise, self-care, athleticism). Participants were 77% female, 82% Caucasian, and mean age of 19 years (range 17-61). NS were more likely to be female, $t(305) = 6.20$, $p < .05$ but there were no differences in age or race. Males endorsed more confidence in ability to carry out physical activity (PA) and engaged in more exercise per week, while amount of PA per week did not differ between majors. A one-way MANCOVA was conducted to determine the effect of undergraduate major on five dependent variables (EMI-2 subscales), with gender entered as a covariate. Significant differences were found between NS and non-NS on the reasons that may motivate them to exercise, Wilks' $\Lambda = .96$ $F(1, 288) = 2.70$, $p < .05$, $\eta^2_p = .05$. Univariate analyses revealed that NS were significantly more likely to endorse higher motivation to exercise in the weight and shape, social aspects, and health related subscales.

The findings suggest that health education is related to motivation for, but not necessarily engagement in, exercise. This indicates that the health-focused rigor of NS is correlated with increased awareness of potential benefits of PA, especially those of health, physical appearance, and social status. However, students entering a health-related and possibly demanding and stressful discipline do not seem to be focused on exercise for the sake of self-care or athleticism. This may reflect the disease-prevention model that undergraduate curriculums tend to focus on, that is engaging in exercise for physical health benefits as opposed to mental health.

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B128

6:00 PM-7:00 PM

NEGATIVE PROBLEM ORIENTATION DIFFERENTIATES PHYSICAL ACTIVITY COGNITIONS AND VOLUME IN CARDIAC REHABILITATION PARTICIPANTS

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Cardiac rehabilitation (CR) is a successful intervention with many positive outcomes for participants, however, adherence to physical activity (PA) post-CR can be problematic. Two complementary frameworks were employed to examine PA self-regulation in CR. Bandura's Social Cognitive Theory posits that self-regulatory efficacy (SRE) and persistence are related to PA when adherence efforts are challenged. The Model of Social Problem-Solving (PS) suggests that PS is related to outcomes in the face of a problem. Among CR participants, self-managing PA post-CR is a challenging problem. PS has been linked to PA self-regulation in cardiac rehabilitation and is a recommended behavior change strategy for CR exercise therapy (Ewart, 1990). However, negative problem orientation (NPO) has not been examined relative to the PA adherence problem in novice participants. The PS model posits lower NPO is related to more adaptive outcomes. In this prospective study, we examined 42 CR novices ($M_{age} = 65.6 \pm 9.1$ years) enrolled in CR. Baseline measures of NPO, SRE, and persistence were obtained. Volume of planned PA (self-managed) was assessed at baseline (T1), 2 weeks prior to CR completion (T2), and 2 weeks post-CR (T3). Individuals with lower NPO were hypothesized to report higher SRE, anticipated persistence, and volume of self-managed PA at T2 (hypothesis 1) and T3 (hypothesis 2) than their higher NPO counterparts. A between-group difference on NPO was confirmed at baseline ($p < .001$). MANOVAs supported hypotheses, $p < .05$, $partial\ h^2 = .41$ (hypothesis 1) and $p < .001$, $partial\ h^2 = .70$ (hypothesis 2). Univariate ANOVA's revealed group differences on SRE and volume of self-managed PA ($p < .01$). Findings support theory-based hypotheses in favor of lower NPO, where less NPO is related to higher SRE beliefs and greater volume of self-managed PA during and after CR completion. This study provides empirical support for Ewart's (1990) ideas about examining problem-solving beliefs in CR exercise therapy.

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B129

6:00 PM-7:00 PM

OBSERVED LACK OF PHYSICAL ACTIVITY AT 4-H CAMP: IMPLICATIONS FOR POLICY AND PRACTICE

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In Virginia, 15% of youth are overweight with the prevalence of obesity at 12% for youth (females 9.4% and males 14.5%). Place-based interventions (e.g., schools, after school programs, summer camps) have been shown to improve the health behaviors of children. One particular setting for potential improved health behaviors is summer camp in the national Head, Hands and Heart (commonly known as 4-H) program. The purpose of this study was to determine if the environment of a 4-H camp provided the opportunity for campers to receive at least 60 minutes of moderate to vigorous physical activity per day. Through a research practice partnership, researchers worked with Virginia Cooperative Extension agents and the 4-H camp staff to develop and carry out a 4-week observational protocol using the validated tool of System for Observing Play and Leisure Activity in Youth (SOPLAY). Before the start of data collection, inter-rater reliability was established between observers, target areas were determined, and operational definitions for the physical activity categories (sedentary, moderate, and vigorous) were established based on the class activities held at camp (e.g., archery, outdoor survival skills). Scans were conducted across 43 target areas during class activities and throughout the day. A total of 925 observations were conducted across 12 days of camp (34% of total days) from 9:00am-5:00pm. Youth were sedentary for 66% of the observations with the remaining activity at moderate (16%) or vigorous (18%) levels. There were significantly ($p < 0.05$) more girls in the sedentary and moderate categories when compared to boys ($n = 4,747$ v 2,919 sedentary and $n = 1,021$ v 861 moderate), but no significant difference between the number of vigorously active girls versus boys (990 v $1,134$, $p > .05$). This is the first study, to our knowledge, to systematically observe physical activity behaviors at 4-H camp. Future work is needed to determine the generalizability of these results at other 4-H centers. The lack of physical activity observed at 4-H camp presents a viable setting for a physical activity intervention. As health behaviors align with the mission and values of 4-H, these centers may be a feasible place to adopt the Healthy Eating and Physical Activity Quality Standards in order to improve health behaviors at camp and beyond.

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B130

6:00 PM-7:00 PM

OUTCOME EXPECTATIONS FOR EXERCISE ARE ASSOCIATED WITH SELF-EFFICACY AND DEPRESSION IN PATIENTS WITH KNEE OSTEOARTHRITIS

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Background: Higher outcome expectations for exercise (OEE) in people with osteoarthritis (OA) have been shown to correlate with greater motivation for physical activity participation. However, little is known about why people with OA vary in their beliefs regarding the benefits of exercise, and which factors may influence OEE in this population. This is the first study to examine the associations between baseline OEE and psychosocial, disease-related, and demographic variables in the setting of knee OA. **Methods:** This study is a cross-sectional, secondary analysis of data obtained at baseline evaluation (n=262) from a single-center, 52-week, randomized comparative effectiveness trial of Tai Chi versus physical therapy for participants with knee OA. Baseline measures included self-efficacy (ASES-8), depression (BDI-II), stress (PSS), anxiety (PROMIS Anxiety 7a), social support (MOS-SSS), OA pain and function (WOMAC), radiographic severity (K-L grade), and demographics. OEE was assessed with the Outcome Expectations for Exercise Scale (OES), which utilizes a 5-point scale where higher values represent stronger expectations for favorable outcomes. OEE was analyzed as a binary variable (OES < 4 vs. ≥ 4). Univariate logistic regression models were used to determine the relationship of participant characteristics to high OEE (OES ≥ 4). Statistical significance was set at $p < 0.05$. **Results:** Participants had a mean age of 59.8 years and BMI of 32.1 kg/m², 69.1% were female, 51.5% were white, and 45.4% possessed at least college-level education. Individuals with higher OEE were more likely to have higher self-efficacy (OR 1.25 [1.11, 1.41]; $p=0.0004$) and less depressed mood (OR 0.84 [0.73, 0.97]; $p=0.01$). Lower stress ($p=0.06$) and female gender ($p=0.08$) trended toward an association with higher OEE but did not reach statistical significance. There were no other significant differences. **Conclusion:** Our study demonstrated that higher OEE was significantly associated with greater self-efficacy and less depressed mood. This suggests that individuals who are more optimistic about exercise outcomes tend to have stronger convictions in their ability to manage OA symptoms and better mood. Future longitudinal analyses should explore how these relationships affect exercise engagement and clinical outcomes in the OA population.

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CITATION AWARD WINNER

B131

6:00 PM-7:00 PM

PEER-SUPPORT MOTIVATIONAL INTERVIEWING INTERVENTION TO INCREASE PHYSICAL ACTIVITY IN SEDENTARY AFRICAN AMERICAN WOMEN

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Family, friends and supportive others exert influence on one's motives, preferences, behaviors, and outcomes. As such, there is a clear need to target natural networks in behavior change studies. However, despite universal agreement for the strong influence of social support for physical activity (PA) most studies continue to focus solely on individual factors. Motivational Interviewing (MI) is an approach that may help individuals enhance the quality of support given and received from their supportive others. Traditionally, MI is delivered by a trained counselor; the novelty of this intervention is that it focuses on the capacity of natural network partners to provide social support for PA by training them to use MI techniques with those in their social network to build support and motivation for change. We present preliminary findings on feasibility, i.e., recruitment, retention, treatment fidelity and participant satisfaction from a MI-based peer support intervention to increase PA in sedentary African American female dyads. Women (N=70; 35 dyads) were recruited in natural non-intimate dyads (i.e., family members or friends) and randomly assigned to either the MI intervention or an Attention Control (AC) group. Dyads randomized to the MI intervention participated in an in-person, 8 hour group training, delivered over 2 Saturdays. Dyads were trained on basic MI skills of asking open questions, reflective listening, setting goals and building motivation. Both groups were encouraged to speak with their partners about PA and engage in PA together, when possible. At baseline, about 40% of participants were ≥ 50 years old, 75% earned ≥\$50,000 per year, and 99% were overweight or obese. Those randomized to the MI intervention group rated the group training 9.0 out of 10.0. 100% of MI participants attended the 2-day training. Intervention dyads used the MI skills with their partners 40% of the time (often/always), 53% used all four skills, and reflective listening and building motivation were the most commonly used skills (33% each). Compared to the AC group, MI dyads were more likely to self-report exercising with their partner ($p < .001$), that they helped each other solve problems ($p=.027$), and that the training enhanced their friendship ($p=.027$). Overall participant retention at Weeks 4, 8, and 12 was 100%, 99%, and 96%, respectively.

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B132

6:00 PM-7:00 PM

PERCEPTIONS OF INFANT PHYSICAL ACTIVITY AND WEIGHT: A PARENTS PERSPECTIVE

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Background: Approximately 10% of infants and toddlers in the U.S. are already overweight. One modifiable factor that may impact weight is physical activity (PA). Historically, society has thought that infants (0-1 year of age) are "active enough" and not in need of efforts to promote PA to expend energy. However, increases in technology have led to less PA in children of all ages. There is a vital need to improve knowledge about factors that may impact the promotion of PA to infants. Since parents are the primary caregivers for infants, their beliefs about PA may influence the amount of time infants are given to be active or time spent in restrictive devices. **Purpose:** The purpose of the study was to explore parents' perceptions of: 1) the weight status of their infant and 2) promoting PA to their infant. **Methods:** Parents who participated in a pilot study examining the relationship between infant PA and postural control in normal weight and overweight infants took part in a semi-structured interview (n=20). Interview questions explored parents' perceptions of their child's weight as well as knowledge and beliefs of promoting PA. Data was analyzed by two trained researchers using the process of immersion/crystallization. **Results:** Overall, all parents felt their child was a healthy size regardless of where their child plotted on the World Health Organization growth charts. Parents of children in the 90th percentile or above felt that their child had "good fat" and referred to the child's larger size as "cute" or they were "glad she has the rolls on her legs". The majority of parents were unclear of PA guidelines for infants (i.e., dedicated time for active play) and often confused PA with achieving motor milestones (i.e., sitting). When discussing how they planned to promote PA to their child, most parents had not thought about how active their infant was and referred to promoting sports in the child's future. **Conclusion:** Results provide preliminary evidence that parents may not be aware of how to promote infant PA. Future strategies for promoting PA are provided.

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CITATION AWARD WINNER B133 6:00 PM-7:00 PM

PHYSICAL ACTIVITY AND SUBJECTIVE MEMORY IMPAIRMENT IN BREAST CANCER SURVIVORS: ROLE OF SELF-EFFICACY, FATIGUE, AND DISTRESS

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Background: Many breast cancer survivors report cognitive change after a cancer diagnosis and its treatment. However, very little is known about the relationship between physical activity (PA) and subjective memory impairment (SMI) in this population. The purpose of this study was to examine the relationship between PA, psychosocial factors, self-efficacy, and SMI in a sample of breast cancer survivors over a 6-month period. **Methods:** All participants (N=1,477) completed self-report measures of PA, self-efficacy, fatigue, distress (depression, anxiety, concerns about cancer recurrence and perceived stress) and SMI at baseline and 6 months. A subsample (n=362) was randomly assigned to wear an accelerometer for 7 days at both time points. It was hypothesized that changes in PA would indirectly influence SMI via self-efficacy, distress, and fatigue. Relationships among model constructs were examined using panel analyses within a covariance framework over the 6-month period. **Results:** The hypothesized model provided a good fit to the data in the full sample ($\chi^2=1462.5$, $df=469$, $p<0.001$; CFI=0.96; SRMR=0.04). At baseline, PA participation indirectly influenced SMI via self-efficacy, distress, and fatigue. Relationships held among changes in constructs over time. Increased PA was associated with increased self-efficacy which was, in turn, associated with lower levels of distress and fatigue. Finally, lower distress and fatigue levels were associated with lower SMI. The majority of the hypothesized relationships were supported in the accelerometer subgroup ($\chi^2=961.8$, $df=535$, $p=0.001$, CFI=0.94, SRMR=0.05). **Conclusions:** This study provides evidence to suggest physical activity, psychosocial factors, and self-efficacy may play an important role in understanding SMI in breast cancer survivors. Future research should replicate and extend these findings by examining the mechanisms underlying these relationships and investigate the role of PA as an intervention strategy for reducing SMI in breast cancer survivors.

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B134

6:00 PM-7:00 PM

PHYSICAL ACTIVITY AS A SOURCE OF MEANING & EMPOWERMENT: A QUALITATIVE EXPLORATION OF EXPERIENCES OF FITNESS BOXING PARTICIPANTS

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Research indicates that Americans of all ages are consistently failing to meet national recommendations for regular physical activity (CDC, 2007). Yet, regular participation in physical activity has been found to provide many physical and psychological benefits and to enhance individuals' overall quality of life. Health promoters are interested in identifying physical activity types that promote physical activity initiation and maintenance. This qualitative study explored the experiences of those who participate in fitness boxing, an increasingly popular type of physical activity. Results indicate that fitness boxing is experienced by those who regularly participate in it as a source of community, physical improvement, uniqueness, emotional release, enjoyment and personal empowerment. Hence, those interested in promoting individuals' regular physical activity participation may want to consider this physical activity type. Further, results provide insights into the structures and processes of physical activity programs that may facilitate regular participation. Additionally, socially constructed gender and age-related norms for leisure-time physical activity are discussed and participants voice objection to these norms in their discussion of and through their participation in this particular physical activity type.

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B135

6:00 PM-7:00 PM

PHYSICAL ACTIVITY BARRIERS AND PREFERENCES AMONG ADULTS WITH PREDIABETES

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Increasing physical activity (PA) is a primary method for preventing type 2 diabetes among those at high risk. Despite the preventive benefits of PA, promoting PA in this population is challenging, and little is known about motivators, preferences, and barriers specific to this group. The present study assessed these aspects of PA among adults who self-identified as prediabetic ($n=142$, 54% male, $M_{Age}=41$, $M_{HbA1c}=6.6\%$, $M_{BMI}=28.9$ kg/m²). Participants were recruited via web/print advertisements to complete a web-based survey. Most participants (65%) perceived their lifestyles as moderately active, though 85% reported engaging in less than the weekly amount of aerobic activity recommended for prediabetic adults (i.e., 210 min/wk). Women engaged in less aerobic activity per week than did men ($p=0.05$, $d=0.43$) and were marginally more likely to endorse lack of social support as a primary barrier to PA ($\chi^2=2.98$, $p=0.08$). Other primary barriers were lack of motivation (53%) and boredom (34%), which did not show gender differences; unlike the general population, lack of time was endorsed as a primary barrier by only 25% of respondents. The most frequently endorsed motivator for PA was weight loss (61%); only 30% noted preventing diabetes as their primary motivator. With respect to PA program preferences, 80% reported interest in technology-supported programs, such as those that use wearable PA monitors or promote online contact between program participants. Interest in programs that focus on goal setting or exercise form were rated as desirable by only 50% of respondents, and were more popular among men than women (62% vs. 38%). Programs involving six or more sessions were rated as appealing more frequently than one-time workshops (70% vs. 26%). Findings suggest that PA programs involving the use of technology, as well as innovative methods of sustaining motivation and interest in PA, may be most successful for adults with prediabetes. In addition, programs that target prediabetic women should promote social support for PA in order to address gender-specific PA barriers.

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B136

6:00 PM-7:00 PM

PHYSICAL ACTIVITY PREFERENCES IN A HISPANIC SENIOR HOUSING COMMUNITY

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Hispanic Americans currently represent 16% of the total United States (1), and this percentage is expected to rapidly increase over the next decade (2). The Hispanic population in the United States faces notable health disparities including that chronic diseases affect the elderly Hispanic community more than other elderly subgroups, largely due to obesity-related ailments (3). Partial contributors to this health disparity may include little support from friends/family for changing diet/activity patterns, being genetically predisposed to these medical conditions, not being properly educated on the benefits of exercise to physical/mental health, physical activity is limited by unsafe environments, and/or inefficient access to gyms/health clubs. A survey was distributed to an elderly Hispanic community living in a facility administrated by the National Hispanic Council on Aging (NHCOA). The survey evaluated education levels, knowledge of the benefits of exercise, and the largest limiting factors to physical activity. There were 16 participants; average age of 77 ± 8 , 63% females, and 37.5% reported they were currently physically active according to scores on the Rapid Analysis of Physical Activity (RAPA) questionnaire, Spanish version. Survey analysis revealed that 56% of respondents would potentially increase exercising if a doctor suggested they do so. In addition, when it comes to exercise preferences, 75% of respondents preferred in-home exercising or walking as their favorite method of physical activity rather than gym-based exercise. 75% of respondents also indicated a preference for an exercise instructor versus exercising alone. The survey indicated that members of this community understood the benefits of exercise, with over 80% agreeing exercise is important to both physical and mental health. The majority (>80%) of respondents also expressed enjoyment from physical activity, and a desire to engage in regular exercise. Future physical activity interventions need to identify specific Hispanic population preferences in order to design culturally appropriate programs. In future research, it is important to understand the differences between physically active and physically non-active community members to determine if there are important differences in preferences, but our current sample was too small to investigate these differences.

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B137

6:00 PM-7:00 PM

PREDICTION OF ADHERENCE TO A 9 WEEK CORPORATE WELLNESS WALKING PROGRAM

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The health and economic benefits of workplace wellness programs are well founded, but the favorable results only occur when employees choose to participate and adhere with the programs. Participation is a key factor in any intervention, and the study furthers current knowledge on the subject. The aim is to use the Theory of Planned Behavior (Ajzen, 1975) and Self-Efficacy Theory (Bandura, 1977) to predict whether participants can adhere to a program and successfully walk five miles a day for 9 weeks. The sample consisted of 110 faculty and staff at a private North Carolina university who enrolled in a walking program through the university's wellness center. There were 93 females, mean age was 42.0 ± 11.6 years and mean BMI was 27.2 ± 6.0 . Participants completed surveys at the beginning of the program. The surveys measured self-reported physical activity, barrier self-efficacy, walking self-efficacy, and Theory of Planned Behavior constructs (e.g., attitude, subjective norm, perceived behavioral control and intention). The participants' survey answers were analyzed alongside how many miles each participant walked during the program to determine which factors were most effective in predicting adherence. 60% of participants meet the program's goals of walking 225 miles over 9 weeks. Self-reported physical activity ($p = .036$), barrier self-efficacy ($p = .016$), walking self-efficacy ($p = .002$), and intention ($p = .001$) were greater in those who met the goals than those who did not meet the goals of the program. This suggests behavioral interventions aimed at increasing participant self-efficacy and intentions could positively affect program adherence and the successfulness of a workplace wellness program.

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B138

6:00 PM-7:00 PM

PROFILES OF RESISTANCE TRAINING AND SEDENTARY TIME AMONG OLDER ADULTS: ASSOCIATIONS WITH HEALTH-RELATED QUALITY OF LIFE

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Background: The primary objective of this study was to gain a better understanding of the associations of health-related quality of life (HRQoL) and psychosocial factors (e.g., satisfaction with life, level of self-esteem, anxiety, depression) with resistance training and sedentary behaviour profiles. **Methods:** For this cross-sectional study, 358 older adults (≥ 55 years of age) across Alberta, Canada, completed self-reported measures of resistance training behaviour, sedentary time, HRQoL, and psychosocial health (e.g., depression, anxiety, self-esteem, satisfaction with life). Participants were placed into one of four profiles with respect to their sedentary and resistance training behaviours. Data were collected in Alberta, Canada between August 2013 and January 2014. **Results:** Pairwise comparisons indicated that those who were low SED/low RT had a higher mental health composite (MHC) score compared to those in the high SED/low RT group ($M_{diff} = 3.9$, $p = .008$). Compared to those in the high SED/low RT group, those in the low SED/high RT groups had significantly higher MHC scores ($M_{diff} = 4.8$, $p < .001$). Those in the low SED/high RT group reported significantly higher physical health composite scores (PHC) ($M_{diff} = 3.7$, $p = .019$), compared to the high SED/low RT group. Lower depression symptom scores were observed in the low SED/high RT groups compared to the high SED/low RT group, ($M_{diff} = -0.60$, $p < .001$). **Conclusion:** Resistance training, regardless of sedentary time, was significantly associated with HRQoL and psychosocial health.

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B139

6:00 PM-7:00 PM

PROMOTING PHYSICAL ACTIVITY IN OLDER VETERANS WITH PTSD: THE VA WARRIOR WELLNESS STUDY

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Posttraumatic stress disorder (PTSD) is prevalent in older Veterans and is associated with increased risk for cardiometabolic disease and long-term health problems. Research suggests that Veterans with PTSD have low rates of physical activity (PA), a known risk factor for morbidity and mortality, yet few studies have targeted PA in this population. This study describes the VA Warrior Wellness Pilot Study, a PA study of older Veterans with PTSD. We describe the results of our expert advisory board and consumer focus groups regarding study design and implementation.

Methods: This study was developed via an iterative approach. First, an expert advisory board of VA clinicians and clinical researchers was convened to inform the study design, intervention and outcomes. Second, consumer focus groups of older Veterans (60+ yrs) with PTSD were conducted to review program design elements (e.g., recruitment/enrollment) and implementation plans (e.g., PA prescription, incentives). **Results:** Based upon feedback from the expert advisory board, a theory-based randomized controlled trial was developed, comparing usual care vs. 12 weeks of supervised PA. This feasibility pilot study includes repeated assessments of physical and psychological well-being. Veterans in the focus groups emphasized promoting a wellness model that empowers Veterans to make change, study branding, integrating technology, and tailoring of PA prescription and outcomes. Population-specific barriers to adherence were identified (e.g., PTSD symptom flare-ups, isolation tendencies, physiologic activation) and strategies for addressing these issues were discussed. **Conclusion:** Input gathered from a multidisciplinary expert advisory board and older Veterans with PTSD in consumer focus groups was absolutely essential, and addressed issues of feasibility, compliance and efficacy. Clinicians and patients alike reported excitement for a program that addresses core health behaviors like PA, which can lessen symptoms of chronic conditions and promote a culture of wellness through self-management.

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B140

6:00 PM-7:00 PM

PSYCHOSOCIAL BARRIERS AS POTENTIAL TARGETS FOR MOBILE HEALTH TECHNOLOGY IN A COMMUNITY-BASED PHYSICAL ACTIVITY INTERVENTION

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Background: mHealth technology appears to promote PA and improve behavioral intervention effectiveness. However, little is known about optimizing mHealth technology to reduce specific psychosocial barriers in community-based PA interventions. **Methods:** We conducted the Washington D.C. Cardiovascular (CV) Health and Needs Assessment in resource-limited D.C. areas. Participants ($n=100$) underwent an assessment of CV health factors and psychosocial barriers to behavior change using validated surveys. Participants were trained to use an mHealth PA-monitoring wristband for the subsequent 30-day period. Wristband PA data (steps/day) were categorized as sedentary (<5000), low active (5000-7499), somewhat active (7500-9999), active (10,000-12,499) or high active ($\geq 12,500$). Measures of perceived stress [Cohen Perceived Stress Scale (max score=50)], social isolation [revised UCLA Loneliness Scale (max score=83)] and depression [Center for Epidemiologic Studies Depression Scale Revised (max score=95)] were compared across PA levels. **Results:** Among participants with PA data ($n=81$; mean age=60 years; 78% female), average median steps/day was 8360 ± 4369 . In addition, 24% were sedentary, 25% low active, 12% somewhat active, 27% active and 12% highly active. Across PA levels, sedentary individuals were older ($p=0.04$). Participants with less PA were more likely to report greater perceived stress (i.e. sedentary: 24 ± 9 ; active: 19 ± 7 ; high active: 19 ± 6 ; $p=0.05$). No significant trends were observed across PA levels for social isolation ($p=0.72$) or depression ($p=0.51$). **Conclusions:** Perceived stress is associated with sedentary activity levels in a community-based population who are from resource-limited Washington, D.C. areas and are able to use mHealth technology. Our results highlight that novel mHealth technology can characterize PA levels and may provide a method for targeting perceived stress in a tailored PA intervention for at-risk, resource-limited populations.

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B141

6:00 PM-7:00 PM

A PILOT STUDY TO ASSESS THE FEASIBILITY AND ACCEPTABILITY OF SOY FOODS FOR PREGNANT WOMEN AT HIGH RISK FOR GESTATIONAL DIABETES

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Background: Diet plays an important role in the prevention and management of gestational diabetes mellitus (GDM). Previous studies suggest that soy protein and isoflavones may have beneficial effects on lipid and glucose metabolism. Little is known regarding the effects of soy intake on glycemic control during pregnancy. This pilot study assessed the feasibility and acceptability of daily consumption of soy foods during pregnancy, and participant adherence to their assigned treatment. **Methods:** This controlled trial was initially designed to randomize subjects to receive bars containing 25 gram milk protein or 25 gram soy protein with 75 mg isoflavones. However, manufacturing and storing bars was challenging due to (1) difficulty to find a competitive manufacturer to make bars meeting study requirements, (2) relatively short (6 months) bar shelf life resulting in need for multiple batches; and (3) storage difficulties related to adequate temperature controls. Additionally, adherence was poor, primarily due to the large size and the rough texture of the bars. To improve feasibility and adherence, we changed the intervention to soy-based whole foods. Women in the Soy group were counseled to consume a combination of foods designed to contain ~25 grams of soy protein and 60-75 mg of isoflavones daily from 14 weeks until birth. They were provided with recipes and contents of different soy foods. Women in the Control group maintained their regular diet while minimizing soy intake. Assessments, conducted at 14 and 28 weeks of pregnancy, and 6 week postpartum, included physical measurement, questionnaire, and fasting blood samples. Monthly follow-up calls were conducted to assess and encourage adherence. **Results:** Thirty subjects were recruited over a 10 month period. The median age was 31 years; 30% were White, 30% were African Americans, and 19% Asian; 74% of subjects had some college education. Nearly 75% of subjects consumed soy foods at least 11 days over the two-week run-in phase. During the maintenance phase, more than half of the Soy group subjects consumed soy foods for more than 15 days in the prior 4 weeks. **Conclusion:** Although adherence can be challenging in such a trial, this study used a variety of approaches to enhance feasibility and compliance. Results indicated feasibility and adherence to treatment assignment.

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B142

6:00 PM-7:00 PM

BREASTFEEDING AMONG LOW BIRTH WEIGHT INFANTS IN THE UNITED STATES

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BACKGROUND: The World Health Organization and the American Academy of Pediatrics recommend breastfeeding for all high-risk infants. Low birth weight (LBW) infants are especially in need of the protections brought by breastfeeding. Despite the importance of breastfeeding, there are currently no nationally representative statistics on breastfeeding among LBW infants. **OBJECTIVE:** We examined the percentage of LBW infants in the United States who were ever breastfed and breastfed for six months or more using a nationally representative cohort of children born in 2001. **METHODS:** Univariate statistics are examined using the ECLS-B data. **RESULTS:** The percentage of LBW infants who are breastfed (58.5%) is lower than the national average (69%). An even larger gap exists between LBW infants breastfed for 6 months or more (19.1%) and the percentage of all infants breastfed for 6 months or more (31.6%). This result is accentuated by poverty, with only 50.6% of LBW infants born at 130% of the poverty line or below ever being breastfed and 12.8% of LBW infants in poverty breastfed for 6 months or more. **CONCLUSION:** A disparity in breastfeeding exists between LBW and normal weight infants. This disparity is larger among LBW infants living at 130% of the poverty line or below relative to LBW infants living above 130% of the poverty line. This suggests that education and breastfeeding support programs are needed for women giving birth to LBW infants, especially LBW infants whose mothers live at 130% of the poverty line or below.

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B143

6:00 PM-7:00 PM

EXAMINING THE ASSOCIATIONS AMONG GESTATIONAL WEIGHT GAIN, BEHAVIORAL FACTORS, AND MATERNAL MENTAL HEALTH DURING PREGNANCY

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Excessive gestational weight gain (GWG) during pregnancy is a major public health concern occurring in more than 70% of pregnant women in the U.S. and may lead to maternal and fetal risks (e.g., preeclampsia, gestational diabetes, fetal death). Studies suggest pregnant women gaining excessive GWG have a greater likelihood of developing depression and related symptomatology (e.g., stress, anxiety) that may exacerbate maternal and fetal risks. Little is known about the associations of GWG to lifestyle factors (i.e., physical activity (PA), sleep, social support, mindfulness) and mental health (i.e., stress, anxiety, depression) during pregnancy. The purpose of this study was to explore the associations among GWG, lifestyle factors, and mental health during pregnancy. A national survey was administered to women ≥ 8 weeks gestation, ≥ 18 years old, and residing in the U.S. ($n=1,032$). Data were analyzed throughout pregnancy and by trimester using bivariate correlations to examine associations. Throughout pregnancy, significant associations were found among GWG and stressful events ($r=-.077$, $p < .05$), PA ($r=-.068$, $p < .05$), mindfulness ($r=-.067$, $p < .05$), and sleep ($r=-.087$, $p < .01$). When GWG was assessed by trimester, stressful events were inversely associated in the second trimester ($r=-.132$, $p < .01$). GWG remained positively associated with depression in the first ($r=.416$, $p < .01$) and second trimesters ($r=.145$, $p < .01$) and became positively associated with anxiety in the first trimester ($r=.326$, $p < .01$). Inverse associations among GWG and social support were observed in the third trimester ($r=-.083$, $p < .05$), and GWG and PA in the second ($r=-.171$; $p < .01$) and third trimesters ($r=-.093$; $p < .05$). Mindfulness remained inversely associated with GWG in the first ($r=-.623$; $p < .01$) and second trimesters ($r=-.142$; $p < .05$). This study provides a framework for future longitudinal models of the relations among GWG, lifestyle factors, and mental health during pregnancy. The information presented here may inform future interventions to investigate the associations found among GWG, lifestyle factors, and mental health during pregnancy, including promoting PA, social support, and mindfulness-based interventions.

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B144

6:00 PM-7:00 PM

INTEGRATIVE BODY-MIND-SPIRIT SELF-HELP TECHNIQUES IN REDUCING ANXIETY FOR INFERTILE WOMEN DURING IVF RESULT AWAITING PERIOD

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In vitro Fertilization (IVF) is a common form of Assisted Reproductive Technologies (ART) among infertile couples. Despite its physically and emotionally demanding process, the pregnancy rate is not guaranteed. The 2-week awaiting period after embryo transfer was found the most distressful period among all treatment stages, since women experienced high level of unpredictability and uncertainty towards the treatment outcomes. In view of this, a quasi-experimental study was done in investigating intervention for these women during their most anxious time. 20 women undergoing IVF treatment were recruited and randomly assigned into treatment group ($n=10$) and control group ($n=10$) after attending a 3-hour briefing session. Treatment group received an exercise book designed according to I-BMS framework aiming at maintaining a harmonious and dynamic balance among physical, psychosocial and spiritual well-being. Members in control group received educational materials on healthy diet. Throughout the intervention, the members were invited to complete self-administered questionnaires containing Importance of Childbearing index, Chinese Trait Anxiety Inventory and Chinese Kansas Marital Satisfaction Scale on the day of recruitment (T0), on the day after embryo transfer (T1) and on the fourteenth day after embryo transfer (T2). By using repeated measures of ANOVA, members of the treatment group showed significant reduction in importance of childbearing ($T1: 26.90 \pm 4.09$; $T2: 24.30 \pm 3.98$, $f=2.10$, $p < 0.01$) and state anxiety ($T1: 45.20 \pm 6.93$; $T2: 42.80 \pm 2.53$, $f=2.74$, $p < 0.01$), and significant improvement in marital satisfaction ($T1: 16.30 \pm 2.50$; $T2: 18.10 \pm 2.47$, $f=3.73$, $p < 0.04$) than those in control group. The self-help I-BMS intervention was proved effective in alleviating their anxiety, and enhancing psychosocial and spiritual well-being. The study opens up of possibility in the usage of flexible self-help intervention to fulfill the special needs of women, and help them prepare physically and psychologically for the treatment outcome.

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B145

6:00 PM-7:00 PM

PATERNAL PSYCHOPATHOLOGY AND PROVISION OF SUPPORT DURING CHILDBIRTH

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Purpose Supportive care during labor and childbirth can lead to a more positive birthing experience. Research has shown that women who have continuous support are more likely to have a spontaneous vaginal birth, shorter labor time, and are less likely to report a negative experience, especially when the support comes from non-hospital personnel (Kashanian, Javadi, & Haghighi, 2010). Fathers are becoming increasingly involved during labor and childbirth, but paternal psychopathology may interfere with their ability to provide effective support. The current study contributes to the literature on partner support by examining the association between paternal prenatal psychological symptoms (anxiety, depression, and somatizing) and their provision of support. **Methods** Thirty-three couples expecting their first child ($n=66$ expectant parents) completed self-report measures as part of a larger, ongoing study. Prenatal depression, anxiety, and somatization were assessed with the Symptom Checklist 90 (SCL-90) questionnaire, completed at 20-30 weeks of pregnancy. Perceived support was assessed using a "Birth Experiences Ratings" questionnaire, completed by mothers within 24 hours of the baby's birth. Results: Fathers' prenatal depression, anxiety, and somatization were all significantly associated with mothers feeling less supported during childbirth ($r(22) = .51, p=0.014$; $r(22) = .58, p = .004$; and $r(22) = .69, p = 0.001$, respectively). Conclusions: The results show that fathers' depression and anxiety during their partners' pregnancies may affect the quality of support they are able to provide during labor and delivery. As continuous support during this period has been shown to lead to more positive birth experiences, interventions to decrease fathers' depression and anxiety before their babies are born might improve partners' experience of childbirth and the couples' subsequent adjustment to parenthood.

Citations

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B146

6:00 PM-7:00 PM

POSTPARTUM BEHAVIORAL AND PSYCHOSOCIAL HEALTHCARE: MISSED OPPORTUNITIES AND ACCEPTABILITY OF SCREENING

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During the postpartum transition women are vulnerable to unfavorable changes in behavioral and psychosocial health, which may compromise maternal and infant health and well-being. Except for perhaps postpartum depression, these are areas that may often be neglected in postpartum healthcare. The first aim of this study was to identify if omissions occurred in discussion of areas of behavioral and psychosocial health (weight, diet, physical activity, alcohol use, and depressive symptoms), and if screening in these areas was acceptable through various settings and methods. The second aim was to assess if omissions and acceptability differed by race/ethnicity or income. Women with full term, live births were randomly drawn from birth records and stratified by race/ethnicity and income (Medicaid and private insurance). Using a mail survey, 168 women responded (adjusted response 33%). Responding women (White = 75, African American = 35, Hispanic = 58) had a mean age of 31.4 y ($SD = 5.4$), and were on average 9 months postpartum. Discussion of behavioral and psychosocial topics was omitted from postpartum healthcare as follows: weight (86%), depression (48%), diet (77%), physical activity (73%), alcohol consumption (71%), and smoking (67%). Omission of weight and depression differed significantly ($p < .05$). Among women of higher income (vs. lower income) discussion of alcohol use and smoking were more often omitted ($p < .05$). Race/ethnicity was not associated with omissions. Women overwhelmingly reported acceptability of screenings for behavioral and psychosocial health topics by questionnaire at their healthcare visits (>94% across topics) or at pediatric visits (>90% across topics). Also 86% of women reported they would be comfortable filling out a screening questionnaire on these topics on a tablet or computer their doctor's office, and 84% reported comfort in doing so at home on an Internet website. These findings indicate widespread missed opportunities in discussing behavioral and psychosocial topics in postpartum healthcare. Women also find a variety of screening settings and methods acceptable.

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B147

6:00 PM-7:00 PM

PREVALENCE AND CORRELATES OF A LIFETIME CANNABIS USE DISORDER AMONG PREGNANT FORMER TOBACCO SMOKERS

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Following tobacco and alcohol, cannabis is the most commonly used substance during pregnancy. Given the high prevalence of concurrent cannabis and tobacco use as well as the health consequences associated with prenatal substance use, we sought to document the relative contributions of psychosocial and psychiatric factors commonly associated with cannabis use in predicting a lifetime cannabis use disorder (CUD) among women who had quit smoking tobacco as a result of pregnancy. Pregnant former tobacco smokers ($n = 273$) enrolled in a larger randomized controlled trial for postpartum tobacco relapse prevention completed semi-structured psychiatric interviews and self-reported demographic, pregnancy, health, psychosocial, and tobacco use factors during their third trimester of pregnancy. In total, 14% ($n = 38$) of women met criteria for a lifetime CUD. The strongest predictors of a lifetime CUD were a history of having multiple psychiatric disorders ($OR = 36.44$; 95% $CI = 5.03-264.27$; $p < 0.001$) followed by a lifetime alcohol use disorder ($OR = 3.54$; 95% $CI = 1.27-9.87$; $p < 0.05$). In addition, more frequent attempts to quit smoking tobacco ($OR = 1.12$; 95% $CI = 1.01-1.25$; $p < 0.05$) and lower self-efficacy about weight management after quitting smoking tobacco ($OR = 0.78$; 95% $CI = 0.62-0.97$; $p < 0.05$) were significantly associated with a lifetime CUD. Given that each of these factors is independently related to poor treatment outcomes during substance use interventions among the general population, these findings suggest that women with a history of cannabis and tobacco dependence may represent a subset of women who need more specialized treatment during the perinatal period to improve substance use outcomes.

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B148

6:00 PM-7:00 PM

RELATIONSHIP SATISFACTION AND OXYTOCIN LEVELS IN EXPECTANT PARENTS

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Background Oxytocin is believed to play a role in promoting prosocial and affiliative behavior. Elevated levels of plasma oxytocin may be a biomarker of distressed pair-bond relationships in women, signaling the need to pursue other affiliations when faced with a threatened relationship (Taylor, Saphire-Bernstein, & Seeman, 2009). The current study examines the association between oxytocin and relationship satisfaction in mothers and fathers expecting their first child. **Method** Blood samples were obtained from 25 expectant couples at a prenatal laboratory visit. These samples were assayed for extracted plasma oxytocin levels. Couples also filled out the Marital Adjustment Test (MAT) to assess relationship satisfaction. At the time of this visit, expectant mothers were mid-pregnancy ($M=28.3$ weeks pregnant, $SD=3.6$ weeks). Oxytocin levels were not available for 4 subjects who declined to provide blood or whose oxytocin could not be assayed. Outlier oxytocin values were detected and excluded by gender, and data were analyzed using separate multiple linear regression models for mothers ($n=22$) and fathers ($n=23$), controlling for weeks pregnant and plasma assay batch. **Results** Higher plasma oxytocin levels were significantly associated with lower relationship satisfaction for expectant mothers ($B=-5.4, t(17)=-2.1, p=.05$). Interestingly, there was also a significant association in the same direction for expectant fathers ($B=-12.8, t(18)=-3.0, p < .01$). **Discussion** These findings are consistent with prior work showing that oxytocin levels are elevated for women in distressed relationships. They also demonstrate that expectant fathers show similarly elevated oxytocin in association with lower relationship satisfaction. This may reflect something biologically unique for men about the period leading up to parenthood. Extensions of this project include the use of a larger sample as data collection progresses and the incorporation of postpartum data.

References

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B149

6:00 PM-7:00 PM

ROLE OF THE WIC BREASTFEEDING PEER COUNSELOR IN KANSAS

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Since 2010, the Kansas WIC program has used Breastfeeding Peer Counselors (BPCs) to support women with breastfeeding. The program currently employs 38 counselors at 33 WIC sites serving a total of 45 counties in Kansas. Though the literature provides evidence that BPCs positively impact breastfeeding rates, little information exists on why they are successful. The purpose of this study was to assess the role of the Breastfeeding Peer Counselor and shed light on her job responsibilities.

This was a cross-sectional, descriptive study using self-reported surveys. All Kansas WIC BPCs were invited to participate in the study. The survey instrument included 28 Likert-type questions. Survey constructs included demographic characteristics, training, professional development, perceptions of strengths and barriers, and job responsibilities. Each construct had an open-ended question. A \$10 gift card was provided upon survey completion. Descriptive and content thematic analyses were conducted.

Via US mail, 38 surveys were mailed to BPCs; 31 were completed with a response rate of 81.6%. The majority of responders were non-Hispanic white (77.4%), aged 26–45 (71%), received some college (54.8%), and had an annual household income of \geq \$25,000 (70%). Responders expressed a strong desire for collaborative learning and would like to shadow other breastfeeding professionals. They cited their relationship with the WIC client as integral to their success. Responders expressed a need for additional training in the areas of communication, breastfeeding problems, and the new hire on-boarding process.

This study's findings may help WIC program administrators enhance the Breastfeeding Peer Counselor program. Additional studies including focus groups with WIC clients regarding their perception of the Breastfeeding Peer Counselor's role could be beneficial, especially studies that include women who met their breastfeeding goals and women who chose not to breastfeed or did not use counselor services.

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B150

6:00 PM-7:00 PM

ACCULTURATIVE STRESS AND RISKY SEXUAL BEHAVIOR: THE ROLES OF SEXUAL COMPULSIVITY AND NEGATIVE AFFECT

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Recent syndemic models of sexual health disparities affecting racial/ethnic minorities have highlighted the role of discrimination. Yet no previous work has examined how acculturative stress (distress at the transition from one's original culture toward a new culture) associates with sexual HIV-risk behavior (SHRB). Work among other minority populations suggests sexual compulsivity (SC) may contribute to syndemic sexual health disparities as a means of coping with distress. With this in mind, the present study examined whether SC explained the relation between acculturative stress and SHRB. Separate analyses were conducted for males and females within a sample of 758 sexually initiated racial/ethnic minority college students. Among males and females, acculturative stress had an indirect effect on SHRB via SC. As the first study to examine SHRB in relation to acculturative stress, findings provide preliminary evidence that targeting SC among racial/ethnic minorities may help reduce sexual health disparities.

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B151

6:00 PM-7:00 PM

ASSOCIATION OF PATIENT-PROVIDER SEXUAL HEALTH COMMUNICATION WITH PATIENT CONDOM USE AT LAST SEX: ANALYSIS OF SEX DIFFERENCES

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Background: The Affordable Care Act encourages communication between patients and providers about sexual health as a part of preventive health care. This purpose of this study was to examine the association between sex-related patient-provider communications with condom use at last sex. **Methods:** The study sample was drawn from a larger online study of sexual health and included 259 participants living in the US. Participants were mostly men (64%), White (74%), and in a dating relationship (61%). Twenty percent of the sample engaged in same-sex sexual behavior. Condom use, alcohol/drug use during last sex, and sex-related conversations (i.e., sexual behaviors, HIV testing) with their primary care provider (PCP) were assessed. Multivariate logistic regression was used to assess the association between provider sex communication and condom use at last sex. **Results:** Compared to women, men were more likely to use a condom at last sex (46% vs. 31%, $p = .02$) and have discussions about HIV testing with their PCP (28% vs 17%, $p = .05$). Roughly 50% of all participants had discussed sex with their PCP, but only 25% had discussed HIV testing. After controlling for race, relationship status, sex, same-sex partners, and alcohol/drug use at last sex, we found a significant interaction between provider communication and sex of participant. Specifically, women who had discussed sexual practices with their PCP were 4 times more likely to have used a condom during their last sexual encounter (aOR = 4.23; 95% CI= 1.16, 15.45). **Conclusion:** Patient-provider conversations about sexual practices are an important aspect of preventive sexual health care, especially for women. Future research should determine ways to increase frequency and consistency of sex related patient-provider communication.

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B152

6:00 PM-7:00 PM

COLLEGE VARSITY ATHLETES' FACEBOOK USE AND THEIR FACEBOOK SEX-SEEKING BEHAVIOR: DOES THEIR RELATIONSHIP STATUS MATTER?

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Background: Facebook has become an integral part of many young people's lives, and it provides an alternative interface for them to interact with others and expand their social networks. With a celebrity-like status on campus, college varsity athletes have been found more sexually active than their college peers. Yet, little is known about whether their Facebook use characteristics are associated with their Facebook sex-seeking behavior, and whether these associations differ by their relationship status. **Methods:** Self-administered survey data were collected from 1,607 college varsity athletes in Taiwan (response rate=97.2%). Controlling for key background variables, multivariate logistic regression was used to explore the covariates of Facebook sex-seeking behavior, stratified by relationship status. **Results:** Those without a stable relationship (9.2%) had higher prevalence of Facebook sex-seeking behavior than those in a stable relationship (8.5%). The former who were non-heterosexual (AOR=2.59), "shared" posts on Facebook \leq 3 days/week (AOR=2.61) and 4-7days/week (AOR=4.73), and sent friend requests to strangers with common friends on Facebook (AOR=1.97) were significantly more likely to have had Facebook sex-seeking behavior. Those in a stable relationship who had higher academic pressure (AOR=2.24), drank regularly (AOR=4.75), "shared" posts on Facebook 4-7days/week (AOR=2.79), and sent friend requests to strangers with common friends on Facebook (AOR=2.28) were also more likely to have done so. **Conclusions:** Depending on their relationship status, various Facebook use characteristics were differentially associated with Facebook sex-seeking behavior among college varsity athletes. Further research is warranted to elucidate the relationships between particular Facebook use characteristics and their Facebook sex-seeking behavior. Interventions via Facebook may be tailored for sexual health promotion.

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B153

6:00 PM-7:00 PM

DEPRESSIVE AND ANXIOUS SYMPTOMS MODERATE INTENTION-BEHAVIOR FOR SEXUAL PARTNER CONCURRENCY AMONG STI CLINIC PATIENTS

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Sexual risk-reduction interventions are typically guided by theories that specify cognitive determinants of behavior, such as behavioral intentions. These theories are supported in epidemiologic research, and interventions shaped by these theories demonstrate efficacy, yet the relation between intention and subsequent behavior is weaker than hypothesized. Research explaining the intention-behavior gap can help to strengthen intervention designs. Longitudinal data from a trial of STI clinic patients ($N = 397$; 56% male; 67% African-American, 19% White, 8% Latino; age: $M = 28.49$, $SD = 9.47$) were used in the analyses. Binary logistic regression tested whether the association between intentions and behavior for concurrent sexual partners differed based on depression/anxiety, as measured by the PHQ-4. Analyses controlled for demographic variables (i.e., sex, ethnicity, income) and partner concurrency at baseline. Intentions for partner concurrency were not associated with symptoms of depression/anxiety, $r = .022$, $p = .629$. However, symptoms of depression/anxiety moderated the association between baseline intentions and behavior at 3-month follow-up, $B = -.435$, $SE = .136$, $p = .001$. Among patients with fewer depressive and anxious symptoms (1 SD below the mean), lower intentions for partner concurrency were associated prospectively with reduced odds of partner concurrency, $B = .621$, $SE = .179$, $p = .001$; among patients with greater depressive and anxious symptoms (1 SD above the mean), intentions did not predict concurrency, $B = -.097$, $SE = .170$, $p = .569$. Psychologically distressed and non-distressed patients do not differ in the strength of their intentions for sexual partner concurrency; however, among those who are distressed, intentions are less likely to translate into subsequent behavior. Interventions that primarily target the hypothesized cognitive determinants of sexual behavior (e.g., behavioral intentions) may be less effective at altering health behaviors among vulnerable populations. Consideration of anxiety and depression in comprehensive risk-reduction programs may enhance intervention outcomes. Future research should examine why psychological distress appears to disrupt the intention-behavior link.

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B154

6:00 PM-7:00 PM

EMOTIONS AND INTENTIONS TO DISCLOSE SEXUAL HEALTH AMONG COLLEGE STUDENTS

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Background: Conversations about topics such as condoms and sexual history are difficult for many young people, and example scenarios could help with disclosure. Varying scenario expressions of hope and fear about past partners and condom use may contribute to greater intentions to disclose this information to partners and reduce risky sexual behaviors. **Objectives:** To examine the association between high/low hope and high/low fear scenarios on intentions of college students to disclose sexual history and condom use to current and future partners. **Methods:** College students ($N=204$) from a Northeastern university read one of four scenarios and completed a questionnaire. Scenarios were randomly assigned: a) high fear/low hope; b) high fear/high hope; c) low fear/high hope; and d) low fear/low hope. Prior manipulation checks ensured scenario emotions were being perceived as intended (high/low). Post-scenario questions included realism of the scenarios and behavioral intentions. We computed frequencies and ANOVAs to examine the associations between responses and scenario exposure. **Results:** Most participants (age $M=20$; $SD=1.32$) were female (54%; $n=110$), White/Non-Hispanic (82%; $n=167$), sexually active (74%; $n=150$), and not in a current relationship (61%; $n=125$). Scenarios with a high emotion (fear, hope or both) was perceived as more realistic than those with low emotions ($F=3.73$; $p=.012$). High hope scenarios produced higher behavioral intentions (high fear/high hope, $M=5.14$; $SD=1.23$; low fear/high hope, $M=5.14$; $SD=1.19$) compared to the low fear/low hope scenario ($M=4.48$; $SD=1.44$) [$F=3.30$; $p=.021$]. **Conclusion:** Findings suggest scenarios expressing more, rather than less, emotions about sexual history and condoms are perceived as realistic by college-age students, and feelings of hope can contribute to greater intent to disclose past sexual history. Interventions to reduce risky sexual practices and improve conversations about sex may want to include hopeful scenarios and examples to college-age students.

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B155

6:00 PM-7:00 PM

FACEBOOK USE AND SEX-SEEKING INTENTION VIA FACEBOOK: GENDER COMPARISONS AMONG COLLEGE VARSITY ATHLETES IN TAIWAN

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Background: One of the most popular social networking sites, Facebook has revolutionized how people communicate and interact with others, particularly in youths. With a “dual role” as a student and an athlete, college varsity athletes have been found more sexually active than their college peers, especially in males. However, little is known about whether their Facebook use characteristics are associated with their sex-seeking intention via Facebook, and whether there are gender differences. **Methods:** A total of 1,607 college varsity athletes in Taiwan participated in this anonymous survey. Collected data included sociodemographics, Facebook use characteristics, and sex-seeking intention via Facebook. Multivariate logistic regression was used for data analysis, stratified by gender. **Results:** Proportionately more males (38.5%) than females (7.7%) had higher intention of sex-seeking via Facebook. The following characteristics were significantly associated with having higher intention: 1) males—who were non-heterosexual (AOR=2.29), sent friend requests to strangers with common friends on Facebook (AOR=2.30), sent private messages to strangers with (AOR=1.87) and without (AOR=1.96) common friends on Facebook, and joined networking/dating groups on Facebook (AOR=1.78); 2) females—who were more masculine (AOR=2.69), “shared” posts on Facebook 4-7days/week (AOR=19.42), sent friend requests to celebrities (AOR=2.60), and joined networking/dating groups on Facebook (AOR=2.99). **Conclusions:** Facebook use characteristics were significantly associated with sex-seeking intention among college varsity athletes, and their relationships differed by gender. Future research may explore the possible mechanisms of Facebook use in influencing their sex-seeking intention via Facebook. Gender-specific intervention efforts may be tailored to promote sexual health.

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B156

6:00 PM-7:00 PM

SEXING AND TEXTING FOR SEXUAL SAFETY: ASSOCIATIONS WITH RISKY SEXUAL BEHAVIOR AMONG AT-RISK YOUNG AFRICAN AMERICAN ADULTS

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This study examined associations between different uses of text messages within romantic and sexual relationships and unprotected sex among a sample of at-risk, predominantly African American young adults, and potential moderators of those associations. Building upon previous research resulted in the development of the Uses of Texting in Sexual Relationships scale with reliable subscales corresponding to four main uses: Sexting, Texting for Sexual Safety, Checking In, and Relationship Development. Surveys were collected from 110 young adults receiving services at an inner-city health department clinic regarding their uses of text messaging, relationship status, relationship power, safer sex intentions, and unprotected sexual behavior. Men and participants not in serious relationships reported more Sexting than women and those in serious relationships. Sexting was associated with more instances of unprotected sex, and Texting for Sexual Safety was associated with fewer instances of unprotected sex. Texting for Sexual Safety did not mitigate the effect of Sexting on unprotected sex. The effect of Texting for Sexual Safety on unprotected sex was moderated by relationship power. Specifically, the association of Texting for Sexual Safety with fewer instances of unprotected sex was stronger for those with higher Decision Making Dominance in their relationships. Further research on the connections between text messaging in relationships and sexual behavior among high-risk and minority young adults is warranted, especially given previous research's focus on college students. Intervention efforts to decrease sexual risks need to incorporate these avenues of sexual communication.

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B157

6:00 PM-7:00 PM

HEY MR. SANDMAN: DYADIC EFFECTS OF ANXIETY, DEPRESSIVE SYMPTOMS AND SLEEP AMONG MARRIED COUPLES

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Although many adults sleep with a partner, sleep is usually studied as an individual activity. On average, 1 in 3 Americans reports that their partner's sleep problems negatively impact their own sleep quality (Better Sleep Council, 2012). However, few studies examine how the bed partner affects sleep, and most have focused on couples in which one partner has obstructive sleep apnea. Our study used a dyadic (couples) approach to examine three specific questions: 1. To what extent does one partner's mental health predict her or his own mental health and the mental health of her/his partner one year later, and are these effects different for women and men? 2. Are these cross-partner effects moderated by one's own sleep? 3. Does one partner's mental health affect her/his own sleep and the sleep duration of her/his partner one year later? Secondary analysis was conducted on a sample of 543 healthy middle-aged heterosexual couples in which both partners had data on sleep duration, anxiety, and depressive symptoms obtained during annual physical exams in two sequential years. Dyadic analyses using the actor-partner interaction model (APIM), showed that: 1) for both members of the couple, anxiety and depressive symptoms at T1 predicted their own anxiety and depressive symptoms one year later. Husbands' anxiety and depressive symptoms had a stronger effect on their wives' anxiety and depressive symptoms than the effects of wives on husbands; 2) Sleep duration only moderated the wives' actor effects on depressive symptoms. More specifically, depressive symptoms at T1 were more strongly related to increases in depressive symptoms at T2 for women who had shorter sleep duration at Time 1 than those with longer sleep duration; and 3) In terms of partner effects, for both women and men, anxiety symptoms affected their partners' sleep duration negatively (that is, less sleep). Husband's depressive symptoms at T1 negatively impacted their wife's sleep duration but wives depressive symptoms did not affect the husbands' sleep duration. The findings suggest that sleep and mental health might better be treated as a couple-level phenomenon than an individual one.

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B158

6:00 PM-7:00 PM

A QUALITATIVE APPROACH TO UNDERSTANDING BELIEFS ABOUT SLEEP AMONG BLACKS.

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There is increasing evidence of insufficient sleep and poor sleep quality among Blacks. Evidence is also emerging that healthful sleep may be a protective factor for health risks, like obesity. So, behavioral medicine approaches to promoting healthful sleep in populations with higher incidence of disrupted or poor sleep is critical. This study used qualitative focus groups to understand sleep behavior patterns and beliefs about sleep among Blacks. **Methods:** Three focus groups were conducted with 17 Black participants (12 female and 5 male). Focus groups lasted on average 50 minutes and followed a semi-structured guide. The interview protocol was designed to facilitate discussion on the topics of sleep, consequences what happens when you do not get enough sleep, and good sleep strategies. Focus groups were conducted by the first author, and analyzed by the second author. Focus groups were transcribed verbatim. Response were first read through, then analyzed using the constant comparative method. In this method, the analyst assigned codes in iterative fashion, first freely, then in several analytical approaches where each additional round of codes was assigned, then synthesized and collated into themes upon completion. **Results:** Participants commonly reported sleep disturbance both acute and chronic in nature. Among the consequences participants listed that result from poor sleep, the most commonly observed were cognitive impairments (e.g., "not sleeping hurts your thinking") and falling asleep while driving or sitting on the bus or subway (e.g., "I'll get on to go to Fordham and end up in Coney Island"). When asked for feedback on good sleep strategies this population employs in their life, the most common techniques were relaxation and alternative therapies like yoga or meditation. In addition, a large number of participants reported relying on religious activities, including reading the bible and listening to gospel music to help them fall asleep. **Conclusion:** These findings suggest myriad factors contribute to sleep disturbance among blacks. Results also suggested salient beliefs and strategies this population holds and practices when it comes to sleep. Researchers could use this information to develop culturally tailored behavioral interventions that promote sleep health among minority populations.

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B159

6:00 PM-7:00 PM

A RANDOMIZED CONTROL TRIAL FOR INTEGRATIVE BODY-MIND TREATMENT OF INSOMNIA AND DEPRESSION SYMPTOMS:MECHANISM OF IMPROVEMENT

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Background Insomnia and depression are commonly coexist and interplay with each other. However, their interactions in an intervention outcome was rarely reported. The present study aimed to unravel this relationship and to identify predictors for insomnia and depression symptom reduction. Integrative body-mind-spirit (I-BMS) model has gained abundant supporting evidences on its effectiveness. **Methods** Participants were recruited in online survey in 2013. Those who had mild to moderate depression and insomnia symptoms ($10 \leq \text{CES-D} \leq 35$ and $\text{PSQI} > 5$) without psychotic comorbidity were invited to attend two-arm RCT (1=wait-list control, 2=IBMS). Other measures include Holistic Well-being Scale (HWS) with Affliction and Equanimity subscales. Data collected at baseline (T0) and three-month follow-up (T2) was used (n of 1=56; n of 2=70). Symptoms improvement and affliction decrease was calculated by reduction rate at T2 (T0-T2/ T0). Increase of equanimity was the increase rate at T2 (T2- T0/ T0). Linear regression was firstly conducted to identify predictors for insomnia and depression reduction rate respectively. Then, mediation analysis was used to further explore relations between insomnia and depression improvement. **Results** After considering baseline scores, groups and demographic factors, linear regression revealed that reduction rate of PSQI ($B=0.42$, $p < 0.05$) and that of spiritual disorientation ($B=0.36$, $p < 0.01$), a factor of affliction subscale, are strongly predictive of depression reduction. Shorter duration of insomnia ($B=-0.10$, $p < 0.001$), higher baseline PSQI score ($B=0.03$, $p < 0.001$) and greater reduction rate of depression ($B=0.11$, $p=0.04$) can predict greater sleep improvement. Yet, no factors from HWS was found accounting for PSQI reduction rate. After considering co-variables, the effect of intervention on CES-D reduction rate was fully mediated by reduction rate of PSQI; bootstrapped indirect effect was 0.11. Meanwhile, reduction rate of CES-D slightly mediated the effect of I-BMS on reduction rate of PSQI; indirect effect was 0.2. Likewise, two-way paths also existed between remission of daytime dysfunction and CES-D reduction with relatively equivalent indirect effect (0.10-0.12), which was not found on nighttime insomnia symptoms. **Conclusion** This study indicated a bi-directional pathway existing between improvement of insomnia symptom, especially daytime functioning and depression remission. Thus, insomnia management is required in treatment of depression and vice versa. In addition, type and severity of patients' symptom can predict treatment outcome which require more careful pre-assessment. In the context of I-BMS model, spiritual disorientation are strong indicators for depression reduction when it is comorbid with insomnia. In addition to behavior therapy, spiritual components should also be included in a comprehensive treatment.

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B160

6:00 PM-7:00 PM

ASSOCIATIONS BETWEEN SLEEP BEHAVIORS AND DISINHIBITED EATING AMONG OVERWEIGHT ADOLESCENT GIRLS

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Insufficient sleep has been associated with high adiposity in youth; yet, the mechanisms that explain this relationship are not well understood. We hypothesized that poor sleep is associated with disinhibited eating behaviors that may contribute to excess adiposity. We therefore evaluated whether sleep behaviors were associated with disinhibited eating in a sample of overweight girls. Participants were a convenience sample of 119 female adolescents (age=14.5±1.6 years; 64% Non-Hispanic Black) who had overweight or obesity (BMIz=2.0±0.5), mild depressive symptoms, and a family history of diabetes. Sleep behaviors were assessed with the Sleep Habits Survey. Depressive symptoms were evaluated with the Children's Depression Inventory. Disinhibited eating behaviors were assessed with the Eating in the Absence of Hunger (EAH) Questionnaire for Children, the Emotional Eating (EE) Scale Adapted for Children, the Eating Disorder Examination, and via energy intake (total kcal) during a standardized lunch buffet paradigm. Controlling for age, race, pubertal status, height, fat mass, and depressive symptoms, daytime sleepiness was positively associated with EE in response to depressed affect, $p < .03$, as well as EAH in response to negative affect, $p < .002$, fatigue/boredom, $p < .001$, and external food cues, $p < .02$. Sleep/wake problems were positively associated with EAH in response to fatigue/boredom, $p < .001$, and external food cues, $p < .007$. Both daytime sleepiness, $p < .002$, and sleep/wake problems, $p < .02$, were associated with greater odds of objective binge eating in the previous month. However, sleep behaviors were not associated with objective energy intake ($ps > .56$). In conclusion, greater sleep problems were associated with more self-reported disinhibited eating behaviors among overweight girls but not with observed intake. Prospective data are needed to determine whether these behaviors uniquely contribute to excess gains in adiposity.

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B161

6:00 PM-7:00 PM

DIFFERENCES IN SHORT AND LONG SLEEP BETWEEN BLACKS AND WHITES ATTRIBUTED TO EMOTIONAL DISTRESS: ANALYSIS OF THE NHIS

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Introduction: Recent findings indicate that blacks are more likely than whites to report inadequate sleep: short sleep duration (8 hrs). However, determinants of this difference are not fully known. The current study examined the potential role emotional distress may play to explain racial/ethnic difference in inadequate sleep duration. **Methods:** The study analyzed data from the 2004-2013 National Health Interview Survey using SPSS 20. Of the total sample of 121,212 participants (age ≥ 18 years): 18.7% were black, 81.3% were white; and mean age was 45 years. Inadequate sleep duration was coded as: Short Sleep (8hrs). Kessler-6 scale was used to measure levels of emotional distress (ED). **Results:** 8.1% of blacks vs. 7.1% whites reported emotional distress. Chi-Square analyses revealed that more blacks reported short and long sleep, compared to more whites reporting average sleep (7-8 hrs.). Blacks had increased odds of reporting short ($OR=1.60, p$) and long ($OR=1.20, p$) sleep compared to whites. The interaction between race and emotional distress demonstrated that for blacks increased emotional distress (ED) had a lesser effect on short sleep ($OR=.99, p$; and long sleep ($OR=.98, p$) compared to whites. **Conclusion:** In general, black and emotionally distressed are significant predictors of short sleep and long sleep durations. Specifically, more blacks reported emotional distress compared to whites; and blacks compared to whites are more likely to report short sleep and long sleep durations at lower emotional distress levels. Emotional distress may play an important role in sleep disparities between blacks and whites.

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B162

6:00 PM-7:00 PM

THE BURDEN OF SLEEP PROBLEMS IN URBAN PRIMARY CARE

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Objectives: To describe sleep problems and co-morbid conditions in Bronx primary care patients, and perceived utility of sleep screening by their providers. **Participants:** English or Spanish-speaking adults, recruited from the waiting areas of two primary care centers in the Bronx, NY. **Procedures:** Participants completed the Insomnia Severity Index (ISI) and the Berlin Sleep Apnea Questionnaire (Berlin) screeners, and self-reported physician diagnosis of medical conditions. Height and weight were obtained from medical records. Graduate students gave the screening results to primary care providers, prior to their seeing the patient. **Results:** Participants ($n=95$), who were predominantly women (77%) and either Black, Non-Hispanic (46.3%) or Hispanic (38.9%), and had a mean age of 44.6 ($SD = 16.8$), reported sleeping 6.2 hours/night ($SD = 1.7$) with 31.8 minutes to sleep onset ($SD = 37.3$). On the ISI, 30 participants (31.6%) screened positive for clinical insomnia [severe=7.4% moderate=24.2%]. On the Berlin, 40 participants (42.1%) screened "high risk" for sleep apnea. Nearly 40% of participants wanted to get help with their sleep now; 12% were currently getting help for sleep problems. Nearly 28.4% had previously sought help. Self-reported comorbidities included high blood pressure (45%), cardiovascular disease (12%) and diabetes (24%). An additional 14% reported chronic pain, and 12 % reported migraine diagnoses. Chronic pain diagnoses were more common among persons with vs. without clinically significant insomnia (57% v. 27%, $p < .05$). No other diagnoses were associated with screener findings. Providers ($n=37$) reported that the screening tools were at least somewhat useful (73%) and brought sleep to their attention (51%). Fewer reported that they informed patient counseling (16%), testing (5%), and referrals (5%). **Conclusions:** There appears to be a high unmet need for screening and treatment of sleep problems in primary care.

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B163

6:00 PM-7:00 PM

THE CONTRIBUTION OF EMOTION DYSREGULATION TO SLEEP QUALITY

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Statement of Problem: Models of sleep suggest a positive relationship with one's ability to manage emotions. Previous research suggests that emotion dysregulation is likely to be associated with poor sleep and that negative affectivity and perceived stress may confound this relationship (Mauss et al., 2013). This study explored the contribution of different aspects of emotion dysregulation to poor sleep. **Participants:** Undergraduate students ($N=455$); 67.4% White; 74.4% female; age 17-51 years ($M=20.1, SD=4.10$). **Procedure:** Self-administered electronic survey. **Demographics, global sleep quality (PSQI- Buysee et al., 1989), emotion regulation (DERS - Gratz & Roemer, 1994, $\alpha = .90$), negative affectivity (PANAS - Watson, et al., 1988, $\alpha = .84$), and perceived stress (PSS-Cohen & Williamson, 1988; $\alpha = .86$) were obtained. **Results:** Poor sleep quality was reported by 21% of the sample; moderate levels of emotion dysregulation ($M = 2.27, SD = 0.67$), perceived stress ($M = 18.17, SD = 7.20$), and negative affectivity ($M = 22.6, SD = 7.43$). Emotion dysregulation, negative affectivity, and perceived stress were significantly and positively associated with poorer sleep quality. Controlling for negative affectivity and perceived stress, hierarchical multiple regression analyses indicated that emotion dysregulation had a positive direct effect on poor sleep quality ($b = .15, p < .01, R^2_{adj} = 0.10$). Secondary analyses suggest the specific emotion regulation strategies of nonacceptance of emotional response ($b = .01, R^2_{adj} = 0.09$), difficulty engaging in goal-directed behaviors ($b = .01, R^2_{adj} = 0.10$), and impulse-control ($b = .01, R^2_{adj} = 0.09$) predicted poor sleep ($p < .05$). **Conclusions:** Emotion dysregulation contributes to poorer sleep quality beyond the influence of negative affectivity and perceived stress. Difficulties with specific emotion regulation strategies, are associated with poor sleep quality. Efforts to promote healthy emotion management, motivation, and impulse-related decisions (i.e., substance use behaviors) among college students may contribute to addressing poor sleep in this population.**

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B164

6:00 PM-7:00 PM

THE IMPACT OF WEIGHT LOSS THROUGH SURGICAL AND NONSURGICAL APPROACHES ON SLEEP OUTCOMES: RESULTS FROM THE HEADS UP STUDY

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Obesity is considered a major risk factor for obstructive sleep apnea (OSA) and sleep-disordered breathing (SDB). Weight loss is associated with improvements in sleep disturbance, and is a frequently recommended treatment particularly for those who are obese. Yet, little research exists on the amount of weight loss needed or the preferred weight loss approach to induce sleep improvements. The Heads Up Demonstration Project is a non-randomized prospective cohort study funded by a state insurance company examining the effectiveness of both surgical and nonsurgical approaches for weight loss among adults with severe obesity. Patients (N=845, 47.3±10.0 yrs; 59.7% female; 60% White) received either an intensive medical and behavioral intervention (IMI; n=522) or weight loss surgery (WLS; n=323). Sleep disturbances were evaluated using the Epworth Sleepiness Scale (ESS) and Pittsburgh Sleep Quality Index (PSQI). PROC MIXED analyses revealed that a significant reduction in somnolence at 6 months occurred for White males and White females in both the WLS and IMI conditions (all $p < .01$). A significant reduction occurred for African American (AA) females in the IMI condition ($p < .001$), but not in the WLS condition. Sleep quality was significantly improved at 6 months for all women and White males (all $p < .01$) regardless of weight loss approach. AA males reported no significant reductions in the ESS or PSQI in either the WLS or IMI treatment condition. Overall, these results suggest that race, gender, and weight loss approach may influence the impact of weight loss on sleep outcomes. Additional analyses examining the influence of demographic factors and one year outcomes will also be presented.

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B165

6:00 PM-7:00 PM

THE SLEEP SETTING QUESTIONNAIRE: DEVELOPMENT AND VALIDITY

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Background: Unfavorable features of one's sleep setting, such as ambient light and noise, disrupt the initiation and preservation of sleep. However, there lacks a valid in-depth questionnaire to assess the sleep setting. Therefore, the Sleep Setting Questionnaire (SSQ) was developed to determine sleep setting factors that affect sleep. **Methods:** College students (n=484; age $M=19.14$, $SD=1.28$; 72.2% female; 89.6% Caucasian) participated in an online study. Participants completed a demographic questionnaire, the SSQ, the Pittsburgh Sleep Quality Index (PSQI), and the Perceived Stress Scale. The SSQ comprised 26 items with five factors: ambient noise, light, and temperature, bedroom comfort, and sleep hygiene. A three-factor structure for the PSQI assessed efficiency, quality, and disturbances. Following confirmatory factor analysis of the SSQ, structural equation modeling with latent variables was performed to determine aspects of the sleep setting predictive of sleep accounting for psychological stress. Goodness-of-fit statistics and bootstrapped standard errors were determined using maximum likelihood estimation. **Results:** A total of 414 participants were eligible for analyses. Eleven items with factor loadings above 0.5 on the SSQ across four factors provided good fit to the data, $\chi^2(38)=70.567$, CFI=0.969, RMSEA=0.046. Internal reliabilities were satisfactory for the factors noise ($\alpha=0.76$), light ($\alpha=0.71$), temperature ($\alpha=0.72$), and sleep hygiene ($\alpha=0.61$). Further, the model predicting sleep based on sleep setting factors fit the data well, $\chi^2(132)=293.105$, CFI=0.912, RMSEA=0.054. Participants with more noise in their sleep setting reported reduced sleep quality ($\beta=0.414$, $p < 0.05$). Similarly, unpleasant room temperature and poor sleep hygiene related to greater sleep disturbance ($\beta=0.544$ and $\beta=0.420$, $p < 0.05$, respectively). **Conclusion:** This preliminary analysis indicates the SSQ has satisfactory reliability and concurrent validity to assess sleep outcomes. Future work seeks to further determine the psychometric properties of the SSQ and relationships between SSQ factors and physiological sleep measures.

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B166

6:00 PM-7:00 PM

TRAIT ANXIETY AND RISK PERCEPTION FOR OSA AMONG BLACKS WITH METS

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Psychological motivations behind the unwillingness to seek obstructive sleep apnea (OSA) treatment among blacks are not fully understood. Evidence indicates that self-efficacy may offer insights as to why blacks, compared to whites, are less likely to seek treatment. However, studies attempting to increase self-efficacy have not been successful and raise the question as to whether other psychological factors might be impacting self-efficacy. The current study investigated associations between anxiety and self-efficacy, particularly risk perception self-efficacy. **Method:** Data came from a sample of 362 black participants from the Metabolic Syndrome Outcome Study (MetSo). Demographic, psychosocial, and clinical data were provided by all participants. Anxiety was measured using the Beck Anxiety Inventory (BAI) and was categorized into low (response of 4 or below) and moderate to high (response of above 4). Self-efficacy was measured with the Self-efficacy Measure for Sleep Apnea (SEMSA), which included three subscales: risk perception for OSA, treatment self-efficacy, and outcome expectation. OSA risk was measured by ARES and was coded as no risk (scores < 4). **Results:** Among participants, 73% were low-high OSA risk. There was a near even split in anxiety responses between mild or lower (55.7%) or moderate or higher (44.3%). Controlling for hypertension, diabetes, heart progress, arthritis, cancer, respiratory problems, and dyslipidemia, patients with moderate or higher anxiety were 2.8 times more likely to perceive themselves at risk for sleep apnea compared to those experiencing low anxiety (CI: 1.3-6.03, $p < 0.001$). Responses to treatment efficacy and outcome expectancy were not significantly different between high and low anxiety. **Conclusions:** Examining correlates of risk factors for METS, like OSA is very important for understanding this chronic condition and methods for behavioral medicine to reduce its prevalence. Interestingly, the current study revealed participants with higher anxiety perceived themselves to be at greater risk for sleep apnea. Future research may explore how these perceptions may be useful for interventions to reduce OSA among Blacks. Findings indicate greater levels of anxiety related to greater levels perceived risk for OSA, adjusting for covariates. We recommend interventions geared toward increasing self-efficacy in OSA treatment screen for anxiety.

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B167

6:00 PM-7:00 PM

CHURCH ATTENDANCE AND INTRINSIC RELIGIOSITY PREDICT A LOWER LIKELIHOOD OF HYPERTENSION IN 18 TO 60 YEAR OLDS

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Religiosity measured in myriad ways has been shown to predict various health outcomes, with greater religiosity predicting better health and less disease, yet our society as a whole is becoming less religious. As measures and methodologies develop and society secularizes, it is important to confirm these relationships in new samples and with current measures. A sample of 917 college students (age 18 to 60) participated in an online survey during spring 2013 or fall 2014. Measures included a demographic questionnaire, the *Perceived Stress Scale* (PSS), the *Religious Surrender and Attendance Satisfaction Scale* (RSASS), and a health questionnaire. Our aim was to determine whether the likelihood of having hypertension was reduced for individuals who rated themselves as high in *intrinsic religiosity* (IR) or who reported attending church services once per week or more (attendance) while controlling for factors thought to contribute to hypertension (gender, age, stress). Separate binary logistic regression analyses were conducted for the two predictors of interest (IR, attendance) with *hypertension* as the dependent variable. *Gender* (male, female), *age* (categorized as 20 or younger [$n = 639$], 21-30 [$n = 234$], 31-40 [$n = 30$], 41 or older [$n = 12$]), and *stress* (total PSS score), were included as covariates. *Stress* and *gender* were unrelated to *hypertension* in either model. In both models, *age* (only the 41 or older category) significantly predicted the likelihood of *hypertension* (IR model: OR 20.68, 95% CI 6.08-70.36, p gender, *age*, and *stress*, both measures of religiosity were significant predictors of hypertension, with more religious individuals being significantly less likely to report hypertension (IR model: OR 0.47, 95% CI 0.24-0.92, $p = .03$; Attendance model: OR 0.44, 95% CI 0.28-0.87, $p = .02$). These findings confirm that religiosity predicts a lower incidence of hypertension, over and above the contributions of gender, age, and stress.

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B168

6:00 PM-7:00 PM

CONSTRUCTING & RECONSTRUCTING LIFE FOR DEPRESSED INDIVIDUALS: FOSTERING POSITIVE SPIRITUALITY IN CLAY ART MAKING

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BACKGROUND Depression creates enormous socioeconomic problems globally and is projected to become the most serious cause of disability in 2030 (WHO, 2008). Medical interventions predominate treatment of depression but multiple impairments urge to treat depression holistically. Being a core component of holistic health, spirituality remains under researched and cared for in depressed individuals. Spirituality emerges in clay-work of art therapy as its constant construction and reconstruction processes resemble rich life experiences. Clay-work transcends spirituality in the dimensions of making meaning, reconstructing life view, and enhancing resilience to adversity in life. This study aims to evaluate the effects of clay-work on spirituality for depressed patients which has rarely been reported in the literature. **METHODS** 100 participants with depression were randomized into therapeutic Clay-Work group (CW) and nondirective Art Making group (AM), both for six 2.5 hours weekly sessions. Intervention efficacy was measured by the Spirituality Well-being Inventory (SWBI) Tranquility, Disorientation and Resilience Subscales, with each corresponded dimensions of spirituality imbedded in clay-work. Data were collected at baseline (BL), end of treatment (T1) and three weeks after (T2). **RESULTS** Results of repeated measures MANOVA showed significant combined effect of clay-work on the SWBI Subscales, indicated by Pillai's Trace [$F(6, 93) = 2.25, p = .045$]. Participants had increase of scores in Tranquility Subscale from BL ($M=17.60, SD=9.76$) to T2 ($M=22.28, SD=10.01$), $p < .000$ and from BL to T3 ($M=22.04, SD=10.83$), $p < .000$. There was drop of scores in Disorientation Subscale from BL ($M=29.72, SD=10.33$) to T2 ($M=25.09, SD=10.06$), $p < .05$; and from BL to T3 ($M=24.63, SD=11.80$), $p < .000$. The increase of scores in Resilience Subscale from BL ($M=15.00, SD=7.51$) to T2 ($M=16.94, SD=6.40$) was insignificant, $p > .05$; change from BL to T3 ($M=17.77, SD=5.50$) was significant, $p < .01$. Change of scores in between the three time points of measurement in AM was insignificant. **CONCLUSION** The results suggest clay-work can enhance positive spirituality that benefits holistic health for depressed patients. The mechanisms of the therapy is worthy of further investigation.

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B169

6:00 PM-7:00 PM

GLOBAL MEANING AND THE PROCESS AND OUTCOME OF REHABILITATION IN PEOPLE WITH SPINAL CORD INJURY: A QUALITATIVE STUDY

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Background. Global meaning refers to global beliefs and goals guiding people in living their lives. Global meaning has been hypothesized to guide the process of adaptation to a traumatic event, such as spinal cord injury (SCI). Knowledge on the role of global meaning in the adaptation to SCI is limited. **Purpose.** The purpose of this study was to explore whether global meaning affects the process and outcome of rehabilitation, as experienced by people with SCI. **Methods.** In depth semi structured interviews were conducted with 16 people with SCI. Interviews were analyzed using qualitative research methods: structural and provisional coding. **Results.** Aspects of global meaning (i.e. beliefs and goals regarding core values, relationships, worldview, identity and inner posture) were found to affect the process and outcome of rehabilitation. Elements of the rehabilitation process included motivation, regulation of emotion, making decisions, and handling stress. Elements of the outcome of rehabilitation included physical functioning, emotional functioning, social functioning, and subjective sense of meaning. The influence of global meaning on the process and outcome of rehabilitation was positive as well as negative, but mainly positive. **Conclusion.** Global meaning was found to affect elements of the process and outcome of rehabilitation. The influence of global meaning on the rehabilitation process and outcome is mostly positive.

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B170

6:00 PM-7:00 PM

HUMILITY, SPIRITUAL GROWTH, AND WORSHIP

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Recent findings in the field of health and spirituality have shed light on the relationship between humility and health outcomes, as well as the utility of this trait in health-care providers. Despite these trends, little is understood about the development of humility and critical factors that enhance this virtue. The present study sought to examine the relationships among humility, commitment to spiritual formation, and approach to worship leading in a study of exemplar worship leaders ($N=26$) from diverse backgrounds. Interpretive Phenomenological Analysis was used to identify interview themes. NVivo9 was used to code interview transcripts by two sets of coders using a modified Tolan Coding Method that required an adequate Kappa coefficient. NVivo10 was used to query data including visual representations of study themes in relationship to each other. Humility that was observed as a process theme in coded transcripts (observed humility) was most closely associated with a God-centered approach and commitment to spiritual formation, while participant discussed humility (expressed humility) was associated with incongruence. Differences in observed and expressed humility shed light on how humility may be authentically cultivated through continual practice that focuses on God and others, rather than intentional conscious effort to cultivate it oneself. Assessment of humility may be strengthened by methodologies that use process themes for observed humility. Future study of observed humility may increase understanding of how authentic humility enhances spiritual growth and health-related outcomes.

Keywords: corporate worship, worship leader, spiritual practices, humility, health

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B171

6:00 PM-7:00 PM

SANCTIFICATION OF THE BODY: A META-ANALYSIS OF HEALTH VARIABLES

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The authors conducted a meta-analysis to investigate the links between health and spirituality. Much of the empirical research focuses on *sanctification of the body*, or viewing one's body as sacred. Whether or not they are affiliated with any particular religious tradition, people tend to endorse sanctification in various aspects of their life (e.g., marriage, parenting, and work). Seventy-three samples from eight peer-reviewed studies evaluated the relationship between sanctification of the body and various correlates of health and well-being. Of the eight studies included in this analysis, two examined a national sample of church members, two studied parents of children with cystic fibrosis, two used an elderly community sample, and the remaining two drew from college student populations. Meta-analytic techniques were used to convert sanctification-correlate associations into standardized effect size zr 's. Using a random effects model, we found an overall relationship between sanctification and all correlates of $zr = .11$ (95% C.I. = .08-.14). This indicates that sanctifying the body is modestly linked to health-protective behaviors (e.g., exercise, stress management) and positive psychological variables (e.g., body satisfaction). Given that the majority of health outcomes were concrete behaviors, even this small effect size is noteworthy.

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B172

6:00 PM-7:00 PM

THE ASSOCIATION BETWEEN MODEST DRESS AND BODY SATISFACTION IN ORTHODOX JEWISH WOMEN

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The identification of factors associated with body satisfaction is important given the association of body dissatisfaction with disordered eating. The extant research on style of dress in relation to body satisfaction focuses on women whose style of dress is self-determined. However, associations may be different in women who dress in accordance with religious mandates. A study of Muslim women did find that women who adhered to the strictest level of veiling had the highest body satisfaction. To our knowledge, no published study has examined body satisfaction and dress in Orthodox Jewish women, who are required to dress modestly by wearing loose-fitting clothes that cover the arms, legs and chest. We investigated the association between body dissatisfaction and adherence to Jewish clothing requirements in 100 undergraduate Orthodox Jewish females, ranging in age from 18–23. A measure of adherence to modesty laws was developed based on Jewish law books. Six items assess modesty level in relation to the covering of body parts (chest, arms, thighs, lower legs) and clothing style (slits, tightness of skirts/pants). One item assessed the influence of Jewish law on dress. Religiosity was assessed in three ways: subjective religiosity, religious behaviors and religious faith. Body Satisfaction measures included the Body Dissatisfaction Subscale (BDS) of the Eating Disorders Inventory-3, a rating of body parts associated with changes during puberty, and the Body Satisfaction Scale (BSS), a rating of general body parts. Most women (85%) reported that Jewish law was very influential in deciding how to dress, and between group comparisons revealed no differences in satisfaction between those reporting high versus low influence. Bivariate correlations revealed no associations between body satisfaction and clothing modesty. However, body dissatisfaction was negatively associated with subjective religiosity ($r = -.34$ (BSS); $r = -.23$ (BDS)) and religious behaviors ($r = -.27$ (BSS); $r = -.21$ (BDS)) (p 's < .05). Our results indicate that modest dress itself may not influence body satisfaction, but that religiosity/religious behaviors may play a role in body satisfaction. These associations should be considered in interventions targeting body satisfaction and eating behaviors in Orthodox Jewish women.

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B173

6:00 PM-7:00 PM

USE OF RE-AIM FRAMEWORK IN A FAITH-BASED DISSEMINATION AND IMPLEMENTATION STUDY TO PROMOTE PHYSICAL ACTIVITY AND HEALTHY EATING

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Background: Faith-based health initiatives have promise for broad community reach. Dissemination and implementation (D&I) research, however, has rarely been conducted in this area. Methods: We are applying the RE-AIM framework to a county-wide D&I study of the previously validated Faith, Activity, and Nutrition intervention that targets church policy, systems, and environmental change. This presentation reports adoption (# of churches and characteristics) and reach (# of members). All churches in a rural, medically underserved county in SC (22,976 residents; 59% African American) were identified (online faith directories, internet searches, community contacts, county canvassing); contacted (phone, email, mailings, visits); and invited to enroll in the study. Results: Of the 173 identified churches, 133 are operating; 68% are predominantly African American; 30% predominantly Caucasian. The most common denominations are Baptist (40%) and non-denominational/independent (21%). Active membership ranges from 6–300; 44% have 51+ members. Total membership across all churches is estimated at ~8,100. 51% of churches (n=68) signed up for the study (adoption). Adoption was unrelated to membership size, but was positively related to participation in a previous health-related initiative (80% vs. 32%, $p < .0001$). Churches with predominantly African American, compared to Caucasian, congregations were more likely to sign up for the study (70% vs. 10%, $p < .0001$). Adoption was highest in AME (91%), Methodist (83%), and Pentecostal (63%) denominations. Ultimately, the intervention has the potential to reach ~4,100 members. Conclusions: 50% of churches and 18% of residents in a medically underserved, rural county are expected to be directly exposed to the intervention. Interest was greater in predominantly African American churches, suggesting greater integration of health into the broader church mission. This study will examine all components of RE-AIM over the next 2 years.

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B174

6:00 PM-7:00 PM

MINDFULNESS AS A MODERATOR OF THE ASSOCIATION BETWEEN STRESS AND ALCOHOL USE IN COLLEGIATE ATHLETES

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Collegiate athletes face many stressors throughout their college careers, which can trigger problematic alcohol use in this population. It is critical to identify protective factors that may buffer against the effects of stress on excess alcohol use. Mindfulness (defined as non-judgmental attention to the present moment) is one promising protective factor.

We hypothesized that dispositional mindfulness would moderate the relationship between stress and alcohol use in collegiate athletes, such that higher stress would be related to more frequent drinking among athletes with low, but not high levels of mindfulness. Participants were 36 Division-III collegiate athletes who enrolled in a Mindful Sport Performance Enhancement (MSPE) workshop (Kaufman et al., 2009). Participants completed measures including the Five Facet Mindfulness Questionnaire (Baer et al., 2006), Depression Anxiety and Stress Scales (Henry & Crawford, 2005), and self-reported alcohol use (number of drinks per week). Correlations were conducted to examine relationships among mindfulness, number of drinks per week, and stress. As expected, greater stress was associated with more drinks per week ($r = .43$, $p = .007$). Mindfulness was associated with lower stress ($r = -.46$, $p = .004$), but not with alcohol use in the overall sample.

Regression analyses were then performed to predict number of drinks per week from mindfulness, stress, and their interaction. There was a significant interaction between mindfulness and stress in predicting number of drinks per week, $b = -.11$, $p = .017$. For participants with low levels of mindfulness, there was a strong, positive relationship between higher stress and greater number of drinks per week, $b = 2.58$, $p < .001$. For those with high levels of mindfulness, there was no relationship between stress and drinking, $p = .754$. These results suggest that mindfulness may serve as a protective factor against problematic drinking when faced with stress. Continuing to develop interventions like MSPE to increase mindfulness in college athletes could help to curb problem drinking.

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B175

6:00 PM-7:00 PM

PARENTAL APPROVAL OF ALCOHOL CONSUMPTION IN TEENS: A CAUSE FOR ALARM?

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Permissive attitudes by parents toward adolescents' drinking have long been debated in parental circles, as it is unclear how such attitudes might be related to risky behaviors. This survey study investigated the prevalence of permissive parental attitudes towards alcohol and the impact these attitudes had on adolescent risky behaviors. A total of 829 high school students were surveyed. When asked "Would your parents be upset if they knew you drank alcohol?" most responded "Yes" (78.9%), with 36.5% responding it would be "easy" or "somewhat easy" to drink at home. Those respondents with parents who would not mind if they consumed alcohol were more likely to have been suspended ($p = 0.023$), drive 10 miles over the speed limit ($p = 0.020$), ride in a car with a friend who has been drinking ($OR = 2.06$, $p < 0.001$), have friends who drive after drinking ($OR = 1.62$, $p = 0.005$), feel that drinking and driving is not dangerous ($p < 0.001$), and believe that drinking and driving is easy to do ($p = 0.002$). Further, those whose parents had more permissive attitudes towards drinking were more likely to say it is "very easy" to drink at home ($p < 0.001$). These adolescents were also more likely to smoke ($p = 0.001$), use marijuana ($p < 0.001$), use inhalants ($p = 0.01$), use methamphetamines ($p < 0.001$), use ecstasy ($p = 0.006$), use steroids ($p = 0.004$), and have heavier alcohol consumption ($p < 0.001$), including binge drinking ($p < 0.001$). Clearly, permissive attitudes toward alcohol among parents play a role in adolescents' risky behaviors. Programming for alcohol consumption and its risks should include a parental component to address such attitudes.

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B176

6:00 PM-7:00 PM

PAY FOR PERFORMANCE AND TREATMENT OUTCOME

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Pay for Performance (P4P) models, which offer fiscal incentives to providers for meeting specific expectations related to patient care, have gained popularity over the last decade as a means of improving quality of care in medical and behavioral health fields (Bremer et al., 2008). Studies examining retention rates following implementation of P4P strategies have yielded mixed results (Brucker & Stewart, 2011; Vandrey et al., 2011). While retention remains an essential outcomes, little research has examined the relationship between P4P and distal outcomes. To address this, the present study was designed to assess whether individuals meeting early engagement criteria proposed by Philadelphia's Community Behavioral Health (a Medicaid HMO for behavioral health) demonstrated better outcomes as measured by urinalysis results obtained at six and 12 months post-intensive outpatient (IOP) initiation. Participants were 76 consecutive admissions to medication assisted treatment who following assessment were assigned to the IOP level of care. Average age at the time of admission was 40.29±10.79 years; mean years of opiate use were 13.65±8.04. Thirty-two of the study participants were female (42%); 28% were African-American. In general, participants were not treatment naïve (67%); intravenous use of opioids was the most common route of administration (62%). Attendance information was extracted from the clinical record. Three quarters of the cases met the insurer established P4P criteria at 14 and 30 days post treatment initiation. A series of analyses crossing P4P 14 and 30 day criteria-met status and urine results for opiate use at 6 and 12 months were conducted. Results indicated that those meeting the 14 day P4P criteria (minimally 4 days of service) were no less likely to be using opiates at 6 months (47%) than those who did not (36%), $\chi^2 = .64$, $p = ns$. Similar results were obtained for 12 month outcomes. Parallel analyses using 30 day P4P criteria yielded similar results. Thus there is little evidence that insurer P4P criteria impact 6 and 12 month opiate use outcomes.

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B177

6:00 PM-7:00 PM

RESULTS OF USABILITY TESTING OF A TRAINING ON RESPONSIBLE RETAIL MARIJUANA SALES PRACTICES

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The four states that legalized marijuana are implementing regulations for retail sales that are akin to state controls on alcohol sales. Responsible beverage service training has been effective at reducing illegal alcohol sales to minors (and, in some cases, to intoxicated patrons). Similar training is essential in the retail marijuana market for availability and legalization can promote marijuana initiation and use by youth. A prototype training program on responsible marijuana sales practices was created and evaluated with retail marijuana outlet owners, managers, and clerks (n=19) in Colorado (n=12) and Washington (n=7) (M=27.7 years old; 10 females; 14 whites, 5 non-whites) and law enforcement personnel in Colorado (n=4) (1 female; 3 whites, 1 non-white) using interview and protocol analysis methods. Participants reviewed a detailed site map of the 4-module training, content outlines for each module, and storyboards of case study videos, and then completed a fully-functional module on preventing sales to minors (video introduction, ID checking quiz, instructions on checking IDs, ID checking activity, methods for spotting underage youth and third-party sales, and a final module test). All participants completed the prototype module (mean=44.9 minutes; mean=8.9 correct [out of 10] on module test). Accuracy at identifying valid IDs improved from the initial ID quiz (mean=3.3 IDs [out of 5] correct) to the final test (mean=4.1 IDs; paired $t(df=10)=2.76$, $p=.02$). Participants rated it extremely positively on a 10-item usability measure (for outlet personnel: means [out of 5]=4.20 [well integrated] to 4.92 [learned to use quickly]; for law enforcement: means=4.00 [need to learn a lot to use it] to 5.00 [learned to use quickly]) and an overall user-friendliness item (mean [out of 7]=6.14 and 6.09, respectively). Outlet personnel felt the training aligned with the atmosphere of their establishments (mean [out of 5]=4.10). In interviews, participants felt the training was comprehensive and logically-organized; named very few overlooked topics; and felt the case studies would help teach difficult skills. Participants liked the amount of interactivity in the module, feeling it helped them pay attention. Training in responsible marijuana sales practices is a feasible intervention to prevent sales to minors.

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B178

6:00 PM-7:00 PM

SEX DIFFERENCES IN DRINKING OUTCOMES VARY BY TYPE OF SOCIAL SUPPORT NETWORKS

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Introduction: Individuals with alcohol use disorders often draw on support from their social networks to perpetuate gains made during addiction treatment. Sex differences exist in the function of social networks, the ways in which individuals are influenced by their network members, and in substance using behaviors. We examined sex differences in social support networks and in drinking outcomes. **Methods:** Participants included 1726 individuals (women=452) from Project MATCH, a multisite clinical trial for alcohol dependence that examined client-treatment matching hypotheses. Using latent class analysis, we identified classes of individuals based on the nature and extent of social support for abstinence or drinking. Regression analyses determined the relationship of social support class membership and sex to drinking outcomes at 12-months follow-up. **Results:** Men and women were classified into three social networks: Frequent Positive Support (FP, frequent contact, abstinence-supporting network), Limited Positive Support (LP, limited contact, abstinence-supporting network), and Negative Support (NG, network supported continued use). There was a significant difference in the drinking patterns at follow-up between men and women in the NG class ($\chi^2=17.26$, 1 df), with men reporting fewer days abstinent than women. Among men, there was a significant difference in the drinking outcomes between the FP and NG classes ($\chi^2=5.39$, 2 df) and the LP and NG classes ($\chi^2=14.41$, 2 df), with the FP having the most days abstinent and the NG class having the least. Among women, there were no significant differences in drinking outcomes. **Conclusion:** The results highlight the impact of a negative social support network on alcohol using behaviors, particularly among men, and the importance of differentially addressing the social networks of alcohol using men and women. This knowledge may benefit researchers and clinicians who aim to understand mechanisms that promote and sustain behavior change in individuals with alcohol use disorders.

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B179

6:00 PM-7:00 PM

THE EFFECTS OF RECEIVING FREE DRINKS ON ALCOHOL CONSUMPTION AND BREATH ALCOHOL CONCENTRATION AMONG PUB PATRONS IN ISRAEL

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Background: Excessive alcohol drinking is a well-known health risk factor among young adults. Studies have shown that lowering the price of alcoholic beverages increases alcohol consumption, and vice versa - increasing alcohol prices - leads to decreased alcohol consumption. The scientific literature to date focused on the effects of "formal" alcohol promotions ("happy hour," "all you can drink," etc.). However, information is lacking regarding the effects of informal drinking specials, when pub managers and bartenders distribute free drinks as a benefit for some customers, on drinking behavior. **Objective:** To determine whether receiving free drinks at a pub is associated with higher rates of reported alcohol consumption and Breath Alcohol Concentration (BrAC), among pub patrons. **Methods:** Data were collected from 1,079 pub patrons in 31 pubs in 13 different cities in Israel. Sidewalk interviews and breath alcohol tests (using a Dräger Alcotest® 6510 Breath Alcohol Screening Device) were performed outside the pubs during weekend nights. **Results:** Most of the study participants (61.6%) reported drinking no more than two beverages during their stay at the pub. Those reporting receiving free drinks were more than 3 times more likely to drink a greater amount of alcoholic beverages, and were 50% more likely to have a BrAC above the average level measured outside the pub. **Conclusions:** Receiving free drinks at the pub seems to be associated with pub patrons' intoxication level. Handing out free alcoholic beverages should be regulated in order to minimize the well-known negative consequences of excessive alcohol drinking.

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B180

6:00 PM-7:00 PM

THE IMPACT OF INCLUDING A SUBSTANCE USE COUNSELOR ON AN INTEGRATED TREATMENT TEAM

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Incorporating a substance use provider within mental health settings may improve the integration of treatment for co-occurring mental health and substance use conditions and provide more effective care. To improve care for this population, the LA County Department of Mental Health implemented several models of integrated care, including the co-location of services and field based treatment teams. While both models of care provided some degree of integrated services, several programs identified a substance use provider within their network, while other programs did not. The current study examines substance use outcomes for clients receiving services from a program with a designated substance use provider and compares them to outcomes for clients who received services from a program that did not identify a substance use provider during social network analysis interviews. For clients attending programs with a substance use provider, there were significant improvements in substance use outcomes from baseline to one year on the Illness Management and Recovery subscale ($t=4.272$, $p < .001$), the PROMIS-Derived Substance Use Scale ($t=2.321$, $p=.022$) and client-reported alcohol ($t=3.421$, $p=.001$) and drug use ($t=1.916$, $p=.05$) frequency. While there was a significant improvement in IMR Substance Use subscale scores for clients that received services from a program without a designated substance use provider, there were no significant changes in any other substance use outcome measures one year after enrollment. These findings highlight the potential benefit of having a substance use counselor within an integrated treatment team.

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B181

6:00 PM-7:00 PM

THE RELATIONSHIP BETWEEN CLIENT AND CLINICIAN AGREEMENT ON SUBSTANCE USE TO OVERALL HEALTH OUTCOMES

Kimberly Center, M.A.

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Providing integrated treatment for co-occurring mental health and substance use conditions can support better outcomes and more effective care for individuals than traditional separate treatment approaches (SAMHSA, 2014). To improve care for this population, the LA County Department of Mental Health implemented several models of integrated care. The current study examines the association between client-reported alcohol and drug use and clinician ratings of impairment of functioning at baseline on changes in outcomes six months after enrollment. Agreement between clients and clinicians on goals and reasons for treatment is an important component of the therapeutic relationship. Evaluating agreement between client and clinician assessments at baseline is inherently difficult to define using only outcomes data. It is possible for people to experience no negative consequences due to alcohol or drug use even if they report frequent drinking or use of drugs. However, for most people in recovery or with a history of consequences due to substance use, any reported use is problematic. Given this complexity, we were conservative when defining low agreement, and included only clients who reported that they “Never” used alcohol and drugs at baseline but were rated by a clinician as being impacted by substance use “quite a bit” or “a lot” in the analysis. There were significant differences in client reported quality of life, as measured by the PROMIS-Global Health ($F(1,128)=12.468$, $p=.001$). As anticipated, clients with better agreement between client and clinician alcohol/drug ratings showed greater improvement in Total Global Health scores. This finding supports the literature that greater agreement between client and clinician ratings of perceived need, such as substance use concerns, is associated with better client outcomes. Surprisingly, clients with low agreement improved more on the IMR Substance Use subscale compared to clients with similar baseline substance use impairment ($F(1, 186)=12.419$, $p=.001$). It is possible that the impairments in functioning identified by the clinician when first meeting these clients were primarily the result of SMI symptoms, rather than caused by substance use. As clinicians got to know the client better during the course of treatment, their assessment at six months reflected a more accurate understanding of the impact of substance use on functioning.

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B182

6:00 PM-7:00 PM

USING A SOCIO-ECOLOGICAL APPROACH FOR A BETTER UNDERSTANDING OF THE FACTORS ASSOCIATED WITH ALCOHOL IMPAIRED DRIVING

Shiran Bord, Samah Hayek, Anat Gesser-Edelsburg, Orna Baron-Epel

University of Haifa, Haifa, Israel

Background: Alcohol Impaired Driving (AID) is a leading risk factor for motor vehicle accidents. The current study’s model is based on the Behavioral Ecological Model (BEM), which assumes an interaction between the physical and social environment that serve as contingencies of reinforcement for individual behavior. In other words, according to this model, the individual behavior is a product of, among others, one’s interactions with one’s environment. The BEM goes beyond the individual and extends principles of behavior to that of groups and whole populations. **Objective:** To characterize factors contributing to AID among young adults, ages 19-35, in Israel using the BEM. **Methods:** Data collection included a survey of 1079 pub patrons, age 18-35, visiting one of 31 surveyed pubs in 13 Israeli cities. Each interviewee was asked to fill out the survey questionnaire and blow into Dräger Alcotest® 6510 Breath Alcohol Screening Device. In addition, 26 observations of the environments of the pubs were made. **Results:** The study suggests that 9% of young adults’ pub patrons in Israel intend to drive while impaired. The patrons’ attitudes in regard to AID were associated with the intent to drive while impaired. These attitudes suggest young drivers do not understand the danger of AID. The availability and accessibility of public transportation within the immediate vicinity of the pub was found to be a protecting factor against AID. When public transportation was available in the vicinity of the pub, reporting AID was lower. **Conclusions:** Both individual and environmental factors contribute to AID, therefore, AID prevention efforts should focus on both levels. Altering young adults’ attitudes towards AID, especially raising risk perception, and improving public transportation accessibility may decrease AID rates among young adults.

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B183

6:00 PM-7:00 PM

‘WE GET TUNNEL VISION’: A QUALITATIVE EXPLORATION OF EMERGENCY MEDICAL PROVIDERS’ VIEWS ON SUBSTANCE USE AND USERS IN BALTIMORE

Allysha Robinson, PhD, MPH¹, Julie Fields, B.S.², Amy Knowlton, MPH, ScD³

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Introduction: Research suggests that utilization of emergency medical services (EMS) is associated with non-emergent issues in substance-using and vulnerable populations. The present study explored the potential for EMS intervention with these individuals, as well as EMS providers’ views of harm reduction programs. **Methods:** Semi-structured interviews were conducted on 22 EMS providers from the Baltimore City Fire Department. Topics included typical encounters with substance users during transport, and types of substance use in Baltimore City. Providers were also asked about their views on receiving training to screen patients for substance dependence, and deliver a brief message to link the patients to addictions treatment programs. Interviews were transcribed and analyzed by three researchers using a grounded theory and constant comparative method. **Results:** Participants were mostly male (68.2%), white (45.5%), and had Advanced Life Support training (90.9%). Mean job tenure was 8.7 years. Most providers attributed EMS misuse or overutilization in Baltimore to substance users, describing them as mostly male, middle-aged alcohol users. Most felt that excessive care provision to a small number of substance-using patients negatively impacts overall emergency response, public safety and quality of EMS care. Several providers expressed that ongoing department budget cuts and resource limitations have eroded job morale. Despite time constraints, several providers expressed willingness to deliver brief motivational messages to encourage substance-using patients to consider drug treatment. Nonetheless, some providers felt that motivational interventions were out of their job purview, and few reported awareness of addictions treatment or harm reduction programs in Baltimore City. **Discussion:** EMS providers may be well positioned to deliver enhanced intervention to substance-using patients. Our results suggest that EMS providers feel burdened by perceived EMS overutilization by substance users, and motivated to deliver enhanced intervention to link them to community services. However, structural constraints (i.e. time, resources, job morale) may impede their ability or willingness to deliver enhanced intervention to link substance users to community resources.

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Friday
April 01, 2016
8:15 AM-9:30 AM

Symposium 36

8:15 AM-9:30 AM

OPTIMIZATION OF BEHAVIORAL INTERVENTIONS: THREE REAL-WORLD APPLICATIONS

Kari C. Kugler, PhD, MPH¹, Danielle Symons. Downs, PhD¹, Nancy Sherwood, PhD², Bonnie Spring, PhD.³

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Recently there an emerging new approach, inspired by engineering principles, to the development of multicomponent behavioral interventions. This approach requires interventions to first be optimized to meet a specific criterion (e.g., only include active components, implement for less than some specified amount of money, select the best set of tailoring variables for an adaptive intervention) before they are evaluated. The talks in this symposium showcase three different applications to optimization of behavioral interventions and discuss the lessons learned to-date.

The first talk details the study design and initial results from the optimization of a multicomponent intervention to identify a cost-effective weight loss intervention. This talk highlights the flexibility of a factorial design for optimization. The second talk provides the rationale for using a sequential multiple assignment randomized trial, or SMART, to optimize an adaptive intervention for weight loss management. This study seeks to identify the best time to intervene with non-responders and the relative efficacy of two treatments to address self-regulation challenges. The third talk describes the application of control engineering principles to optimize an intensive adaptive intervention to efficiently manage gestational weight gain. This study demonstrates how dynamical systems modeling of weight gain related to energy intake, physical activity, and planned/self-regulatory behaviors can be used to adapt intervention dosages to pregnant women.

As a whole, this symposium will demonstrate how this emerging approach is currently being used in real-world settings to optimize behavioral interventions. These studies were funded by three different institutes, suggesting increased interest in optimizing behavioral interventions across different public health outcomes. The discussant, who has extensive expertise in behavioral interventions, will provide insight from NIH about the funding climate for using this emerging approach.

Symposium 36A

PRELIMINARY FINDINGS OF AN INDIVIDUALLY-TAILORED “JUST-IN-TIME” ADAPTIVE INTERVENTION TO MANAGE PRENATAL WEIGHT GAIN

Dr. Danielle Symons. Downs, PhD

Managing gestational weight gain (GWG) in overweight and obese pregnant women (OW/OBPW) is of utmost importance as conventional approaches have been generally ineffective. There is good enthusiasm for novel approaches, such as adaptive interventions relying on dynamical systems modeling and control-oriented methods, to optimize intervention efficiency and effectiveness. However, little to no past research has used this strategy to manage prenatal weight gain. We have developed an individually-tailored “just in time” behavioral intervention that adapts intervention dosages to the unique needs of OW/OBPW to effectively manage GWG. To optimize this intervention, control systems engineering is used to understand how changes in GWG for each woman responds to changes in energy intake, physical activity, and planned/self-regulatory behaviors. The symposium goals are to: (a) describe the adaptive intervention methods, (b) discuss preliminary findings from the first trial, and (c) highlight key lessons learned that have informed the design of the randomized control trial. The intervention components (education, self-monitoring, goal-setting, physical activity/healthy eating active learning) and dynamical model of energy balance will be described. Data from the first trial ($N=22$ OW/OBPW randomized to one of seven intervention dosages) is analyzed using MATLAB to visualize how the changes in GWG based on components of the energy balance model. Some of the key lessons learned to be discussed will include designing the intervention dosages, recruiting OW/OBPW, and using M-health technology for intensive data collection and generating real-time feedback to participants about their GWG and physical activity/healthy eating behaviors.

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Symposium 36B

THE BESTFIT WEIGHT LOSS TRIAL: SMART STUDY DESIGN AND EARLY IMPLEMENTATION LESSONS LEARNED

Dr. Nancy Sherwood, PhD

Behavioral weight loss programs help people achieve clinically meaningful weight losses (8-10% of starting body weight). Despite data showing that only half of participants achieve this goal, a “one size fits all” approach is normative. This weight loss intervention science gap calls for adaptive interventions that provide the “right treatment at the right time for the right person”. Sequential Multiple Assignment Randomized Trials (SMART), use experimental design principles to answer questions for building adaptive interventions including whether, how, or when to alter treatment intensity, type, or delivery. The BestFIT study is a SMART designed to evaluate the optimal timing for intervening with weight loss treatment non-responders and the relative efficacy of two treatments that address self-regulation challenges which impede weight loss: 1) augmenting treatment with portion-controlled meals (PCM) which decrease the need for self-regulation; and 2) switching to acceptance-based behavior treatment (ABT) which boosts capacity for self-regulation. The primary aim is to evaluate the benefit of changing treatment with PCM versus ABT. The secondary aim is to evaluate the best time to intervene with non-responders. The symposium goals are to: 1) describe the BestFIT SMART study design and the development of the decision rules for study implementation, including re-randomization of study participants to the second stage treatments (PCM versus ABT); 2) describe the operationalization of study decision rules, recruitment methods, and early study implementation based on the first 100 study participants; and 3) discuss lessons learned and recommendations for designing SMARTs including strategies for optimizing implementation.

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Symposium 36C

OPT-IN: OPTIMIZATION OF REMOTELY DELIVERED INTENSIVE LIFESTYLE TREATMENT FOR OBESITY

Professor Bonnie Spring, PhD.

The Opt-IN Study is a 6-month behavioral weight loss intervention that utilizes the Multiphase Optimization Strategy (MOST) to identify which treatment components or component levels contribute most cost-efficiently to weight loss. The 5 components are: coaching calls (weekly or biweekly), text messages (yes/no), recommendations to use meal replacements (yes/no), progress reports sent to a primary care physician (yes/no), and formal training of a support “Buddy” (yes/no). All participants receive calorie, fat gram and physical activity goals to achieve a 7% weight loss over the 6 months. Participants receive regular telephone coaching from a behavioral lifestyle coach, online lessons, and the Opt-IN smartphone application to self-monitor daily dietary intake, physical activity, and body weight. In addition, participants are randomized to receive a combination of the 5 treatment components/ component levels. As of August 2015, 302 participants have been randomized (goal $n=560$). A total of 241 and 172 participants have completed 3- and 6- month follow-ups, respectively. Participant retention is currently at 92.2% at 3 months and 84.5% at 6 months. A main lesson learned to-date from the Opt-IN study has been the flexibility of implementing a MOST design. Although Opt-IN was originally proposed as a fractional factorial design involving 16 conditions; to address a clerical error, it was transitioned mid-trial to a full factorial experiment consisting of 32 randomized conditions. We plan to discuss this transition and the results to date. Using the results of this trial, we aim to build an intervention comprised only of components that actively contribute to weight loss and that is optimized for scalability.

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Symposium 37

8:15 AM-9:30 AM

DIGGING DEEPER: USING DAILY DIARY STUDIES TO CAPTURE WITHIN AND BETWEEN PERSON PREDICTORS OF HEALTH BEHAVIORS

Crystal Park, PhD¹, Kristen Riley, M.A.², Amanda Chue, BS³, Joshua M. Smyth, PhD⁴¹University of Connecticut, Mystic, CT; ²University of Connecticut, Lauderdale By The Sea, FL; ³American University, Washington, DC; ⁴The Pennsylvania State University, University Park, PA

Research using naturalistic ambulatory assessment techniques (e.g., daily diary, or ecological momentary assessment [EMA]), can generate intensive longitudinal data on people's thoughts, emotions, and behaviors as they unfold over time in their natural contexts (Bolger & Laurenceau, 2013). These methods are especially appropriate for measuring health behaviors as these occur frequently, multiple times per day. Yet these methods remain relatively underutilized in studies of health behaviors. This symposium highlights how studies using naturalistic ambulatory assessments can capture precursors and consequences of health behaviors in everyday contexts.

In this symposium, three studies will be presented, each using naturalistic ambulatory assessments to model relationships among predictors, health behaviors, and outcomes. The first presenter will describe a study that used actigraphy to measure adolescents' sleep each night for two weeks. This study found that poor sleep interfered with recovery from daily stress; specifically, poor sleep interfered with adolescents' natural tendency to reappraise yesterday's worst stressor as less troubling on the following day. The second presenter will describe results of an 11-day daily diary study in university students. She evaluated rumination as a predictor of health behaviors, including fruit intake, vegetable intake, exercise, alcohol intake, and sexual risk taking. Results indicated that rumination acted on all health behaviors through impulsivity, and on exercise through decreased motivation on the within-person, level. The third presentation will describe results of a study using twice-daily smartphone-based EMA for 14 days to examine relations between daily stress, negative emotions, and diet (specifically, consumption of sweets). Findings were that daily stressful events predicted subsequent dietary behavior, effects mediated through negative emotion, especially depression. Following these presentations, our discussant, Joshua Smyth, a renowned expert in intensive longitudinal study designs in health research, will draw conclusions across the three studies and discuss implications for the broader field of health behavior research.

Symposium 37A

NEGATIVE EMOTIONS AND DAILY DIETARY BEHAVIOR: THE DISTINCT ROLES OF ANGER, SADNESS AND ANXIETY

Crystal Park, PhD

Background and Objective. Although stress has been linked with poor dietary behavior, the mechanism underlying this association have not been identified. In the present study, we tested a theoretical model in which the impact of daily, stressful life events on dietary behavior are mediated by negative emotions. Further, we examined whether different negative emotions differentially influenced diet, and whether negative affectivity moderated these relationships. **Methods.** Web-based survey data were collected via smartphones twice daily for 14 days from 1,442 participants (59.8% women; mean age=47.3 years (SD=.42); 80.3% White, 13.5% mixed race, 3.1% Asian. 2.6% Black, 4% Native American; 5.4% Hispanic) across the United States. We used multilevel modeling to examine relations between daily stressors, daily negative emotions (depression, anger, and anxiety) and consumption of sweets. **Results.** On days when participants experienced more daily stressors, they were more likely to experience more of all three negative emotions, which in turn predicted greater consumption of sweets. Depression was the strongest of these emotional mediators, particularly for participants with high levels of in negative affectivity. **Conclusions.** These results suggest that daily stressful events may indeed influence dietary behavior through negative affect, especially depression. Future research should examine a greater range of dietary behaviors, and test other moderating effects such as tendencies toward emotional eating.

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Symposium 37B

RUMINATION AS A PREDICTOR OF HEALTH BEHAVIORS IN COLLEGE STUDENTS: A DAILY DIARY STUDY

Kristen Riley, M.A.

Rumination, passively and repetitively thinking about negative feelings or events, is a common cognitive process among college students that may impact health behaviors by causing people to act impulsively or to not act at all. However, very little research has examined the relationship between rumination and health behaviors, and none to our knowledge has studied possible mechanisms.

Method To evaluate the possible links between rumination, mediators, and health behaviors, we used a daily diary methodology. Diary methods capture the particulars of in situ experiences with more accuracy, avoiding the error of longer-term retrospection, which is subject to memory reconstruction, the availability heuristic, and state congruent recall. Health behaviors occur on a frequent basis, making a daily diary design particularly appropriate for measuring temporal relationships between variables, and measuring health behaviors with precision. 285 college students completed an 11-day online daily diary survey. Outcomes included fruit intake, vegetable intake, exercise, alcohol intake, and sexual risk taking behavior. **Results and Discussion** Using multilevel modeling in Mplus, we found that rumination had a significant relationship with all outcomes in the direction expected. Impulsivity was a significant Level 1 within person mediator between rumination and all health behaviors, with a positive relationship to rumination, a positive relationship with maladaptive health behaviors and a negative relationship with adaptive health behaviors. The inability to act, measured as low motivation, was a significant mediator between rumination and decreased exercise. These relationships were better detected at the daily level, with fewer significant relationships at the Level 2 between person level. This research is important because it identifies another predictor of maladaptive health behavior patterns that is very common in the college student population (rumination), and its mechanisms of action (impulsivity and the inability to act), in order to develop more efficacious interventions.

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Symposium 37C

I'LL FEEL BETTER IF I SLEEP ON IT: THE IMPACT OF OBJECTIVE AND SUBJECTIVE SLEEP ON DAILY EVENT AND EMOTION RECOVERY IN ADOLESCENTS

Amanda Chue, BS

Background: Poor sleep in adolescents is a public health concern. Sleep has a role in processing emotional material and hence, it is possible that poor sleep interferes with the ability of teenagers to reappraise events and feel better the next day. Using a daily diary design, we investigated the role of objective and subjective sleep measures on the reappraisal of the previous day's negative and positive events as well as change in mood. **Methods:** 79 adolescents participated in a two-week long daily diary study of sleep and emotions. They completed surveys each evening to assess their mood, desirability of their best event, and undesirability of their worst event. Each morning, they rated their subjective sleep quality, current mood, and reappraisals of events. Participants wore a Fitbit to record their sleep with actigraphy. **Results and Conclusions:** Controlling for school days versus weekends, ratings of event undesirability and negative affect were generally less negative the next morning, and positive event desirability was generally less positive the next morning. Hence, both positive and negative events were generally seen as less salient the subsequent morning. Total sleep time did not predict change in ratings of the events and affect. However, as sleep latency increased, ratings of event undesirability showed less recovery – the general improvement in appraisal ratings was weakened in the context of poor sleep latency (controlling for the level of undesirability of the original event). Similarly, ratings of negative mood did not improve as drastically when sleep latency was poor. Interestingly, subjective sleep quality impacted positive event ratings more than negative event ratings. As subjective sleep quality decreased, individuals had a more drastic drop in ratings of the previous day's positive event and in positive mood. These findings suggest that trouble falling asleep may hinder recovery from the previous day's stressors and negative mood, while subjectively experiencing good sleep may help to capitalize on positivity from the previous day.

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Symposium 38

8:15 AM-9:30 AM

THEORY-GUIDED EXERGAMES

Arlen C. Moller, PhD¹, Dejan Magoc, Ph.D.², Tom Baranowski, PhD³, David Conroy, PhD⁴, Nathan K. Cobb, MD⁵, Amy S. Lu, PhD⁶, Ryan E. Rhodes, PhD⁷

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Mobile, console, and web based “exergames” (i.e., electronic games designed to promote physical activity) have rapidly risen in popularity. However, these games have also been criticized for often lacking theory- or evidence-based components, and having limited efficacy in terms of promoting sustainable or sufficiently intense behavior change. Four speakers will present distinct, but complimentary perspectives on this theme. David Conroy will present evidence for the limited use of theory- and evidence-based strategy based on recently systematic reviews of popular fitness apps and exergames highlighting those components that were found most and least often. Nathan Cobb will present findings related to the development and testing of an exergame working in an industry setting using input from design and social cognitive theory (i.e., Walkadoo by MeYouHealth). Amy Lu will present findings on the role that narrative plays in motivating engagement with exergames. Ryan Rhodes will present findings from an RCT evaluating the effect of an exergame bike with multi-player online games in comparison to the same games with a computer controlled opponent. The discussant, Dr. Tom Baranowski, Editor-in-Chief of the Games for Health Journal, will discuss implications for the future of theory-guided exergame interventions.

Symposium 38A

EXERGAME DESIGN TO IMPROVE SELF-REGULATION OF LIFESTYLE PHYSICAL ACTIVITY: LESSONS FROM MOBILE APPLICATIONS FOR PHYSICAL ACTIVITY

David Conroy, PhD

Exergames provide an exciting opportunity to increase physical activity during a popular activity that would otherwise be sedentary in nature. Recent reviews support the hype behind these games as energy expenditure and physical activity levels increase to health-enhancing levels (e.g., Sween, Wallington, Sheppard, Taylor, Llanos, & Adams-Campbell, 2014). To date, these effects have been studied in the context of acute effects of exergames on energy expenditure and physical activity. Less is known about whether these games improve self-regulation of physical activity outside of the game context in the natural context of daily life. It may be possible to design exergames that thoughtfully incorporate behavior change techniques to train participants to self-regulate their physical activity outside of the games. This presentation will draw from the author's recent reviews of physical activity apps to identify strategies that may be generalizable to the exergame context. Specific attention will be paid to apps that facilitate competence-based comparisons over time or between users. These features will be contrasted with popular exergames on the market to highlight the potential for designers to introduce new applications for exergames.

Symposium 38B

DESIGN AND EVALUATION OF A WALKING INTERVENTION GAME IN INDUSTRY

Dr. Nathan K. Cobb, MD

Interventions that are deployed commercially and used by large populations tend to be designed within the confines of industry rather than representing translational partnerships with academia. As a result development processes and any theoretical underpinnings may be opaque to external observers.

MeYou Health developed a wireless pedometer based walking program (Walkadoo) using both theory and previous intervention design experience to inform the process. A three-phase design process involved initial structured interviews with potential participants, followed by the development of a functional prototype and finally the iterative design and development of the actual intervention. The first two phases identified a core “game mechanic”, the daily delivery of tailored goals with randomized difficulty derived from preceding pedometer data. In the final development phase this was embedded in a larger social game system informed by Social Cognitive Theory. A team of visual and interface designers and engineers worked with an experienced game designer and staff behavioral scientists across the development cycle. Versions of the intervention were developed iteratively and deployed to real world users for testing.

During iterative development we conducted a pragmatic, randomized control trial conducted which demonstrated that the intervention increased daily step counts by 970 steps over control at 7 weeks, but that adherence to the theory derived elements was low. A separate set of focused user interviews supported the hypothesis that participant satisfaction and engagement stemmed from the core game mechanic (tailored, randomized daily goals). Current, iterative development targeting social norms, social interactions and self-efficacy will be discussed.

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Symposium 38C

THE NARRATIVE IMPACT OF EXERGAMES ON CHILDREN'S PHYSICAL ACTIVITY

Dr. Amy S. Lu, PhD

Active video games (AVGs) capable of inducing physical activity (PA) level offer a novel alternative to child obesity prevention. Unfortunately, the motivation to play AVG decreases quickly, underscoring the need to find new ways to maintain their engagement. According to narrative transportation theory, the more a narrative immerses a person into a story world, the more consistent their beliefs and behaviors should be with that narrative. Narratives may be an important method of motivating AVG play, but their role in AVGs has not been explored.

As the first study to systematically explore narrative's effect on children's AVG play, this project addressed two research questions: 1) What type of narratives do children like? 2) Will a narrative version of an AVG result in higher PA?

To address Q1, surveys and cognitive interviews were used to explore child preferences for the type of narratives among 40 children. Results indicate that to appeal to children, game character movement and action should be carefully woven into a narrative; character behavior must be justified; the protagonist should be someone with whom the children identify; the protagonist should have a companion; and the narrative should lead players to expect additional levels.

To address Q2, another 40 children were recruited to play an AVG. Half watched a narrative trailer (developed to address Q1) before the AVG play. The other half played the AVG without viewing the trailer. Objectively measured PA (via ActiGraph and Sensewear) were recorded and analyzed. Results indicate that the narrative group had significantly more steps during play in terms of the average number of steps per 10s period and in total across the entire play period when compared with the non-narrative group.

These results provide preliminary evidence of increased engagement with AVGs with narratives. Child-appropriate measures to assess engagement in narrative-based media should be developed and validated. Additional research is needed to explore story immersion to maximize AVG intervention outcome on PA.

Symposium 38D

COMPARISON OF MULTI-PLAYER VS. COMPUTER CONTROLLED OPPONENT STATIONARY CYCLING EXERGAME USE AMONG CHILDREN IN THE FAMILY HOME: A RANDOMIZED TRIAL

Dr. Ryan E. Rhodes, PhD

Exergames may be one way to increase physical activity in children because it is often reported as a fun activity. Unfortunately, most research shows that initial participation rates decline across time. One way to maintain participation may be through multi-player gaming, which can add greater social motivation and human competition compared to a computer controlled opponent, but this has seen very little research attention. The objective of this study was to evaluate the effect of an exergame bike with multi-player online games in comparison to the same games with a computer controlled opponent across six-weeks within a family home environment. **Method:** Sixty-nine children, aged nine to 12 years, who were below physical activity guidelines at baseline, were recruited through advertisements and randomized to either the multi-player ($n = 34$) or the computer-controlled opponent ($n = 35$) bike condition. Open session exergaming took place five days per week in the early evening with online monitor supervision of the Liberi cycling game system. Weekly bike use was objectively recorded via system log-in and play time, total physical activity was recorded via self-report, and family interviews on game play were conducted at six weeks. **Results:** Repeated measures analysis of variance showed that mean weekly game use started at 42.22 min ($SD = 28.06$) but declined significantly across time [$F(63) = 6.38, p = .00; \eta^2 = .34$] to 23.94 ($SD = 20.63$) minutes. There was no significant time \times group interaction ($p = .28$), yet total physical activity was significantly higher at six weeks compared to baseline [$F(63) = 7.97, p = .01; \eta^2 = .11$] and 95% of parents reported that exergame time displaced prior sedentary time and not other physical activities. **Conclusions:** Overall, both exergame conditions showed the same diminishing use similar to prior research; however, both conditions showed that exergaming augmented total physical activity in the medium effect size range and displaced sedentary behavior. Other innovative solutions to sustaining the high initial use of exergames is needed in future research efforts. In sum, exergaming can be considered part of a larger palette of home-based physical activities for children.

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Symposium 39

8:15 AM-9:30 AM

ADOLESCENT AND YOUNG ADULT SURVIVORS OF CHILDHOOD CANCER: CBT AND PSYCHODYNAMIC TREATMENT PERSPECTIVES

Lauren M B. Richardson, MA¹, Anne T. Nolt, PhD, ABPP-CN², Randi McAllister-Black, PhD³, Bri Staley Shumaker, MA⁴

¹Fuller Graduate School of Psychology, Irvine, CA; ²Fuller Theological Seminary, Pasadena, CA; ³City of Hope, Orange, CA; ⁴Fuller Graduate School of Psychology, Pasadena, CA

Adolescent and young adult (AYA) survivors of childhood cancer face a variety of psychological and social challenges as a consequence of prolonged early life stress and exposure to the unpredictable environment of the cancer experience. They are prone to risky behaviors as they navigate education, employment, and social relationships, all while transitioning into adulthood. Typical developmental tasks are often hampered by a bias toward a reactive way of responding to events and a tendency to avoid negative emotions in order to cope with stress. Identity development is also challenging as they attempt to accomplish the tasks of emerging adulthood while integrating their cancer experience. To further complicate matters, parents of AYA survivors often perceive their children as medically vulnerable and remain overprotective, which can be a source of stress. Thus, it is not surprising that some AYA survivors become stuck and require specific psychological interventions to successfully manage the process of identity formation and psychosocial adversity. Cognitive behavioral interventions have been found to be effective in decreasing psychosocial symptoms. To address issues related to emotional and identity development, however, an art intervention within the existing therapeutic framework provides an opportunity to do the in depth psychodynamic work that can help survivors get unstuck. Through this symposium, a variety of practical means of helping AYA survivors become unstuck will be presented: First, from within a cognitive behavioral perspective, through audience discussion; second, from a psychodynamic perspective; third, through the use of art, within a more traditional framework of therapy. The discussant will provide specific examples of how she has incorporated the mandala into her work with AYA survivors.

Symposium 39A

IDENTITY PARADOX AND PSYCHODYNAMIC THERAPY AMONG ADOLESCENT AND YOUNG ADULT SURVIVORS OF CHILDHOOD CANCER

Lauren M B. Richardson, MA

As they transition from childhood to adulthood, adolescent and young adult (AYA) survivors of childhood cancer are confronted with a unique set of challenges due to early life stress inherent to the cancer experience. Identity development is a particular developmental challenge as AYA survivors seek to integrate their cancer experience and cope with social pressures of emerging adulthood that includes developing and realizing educational and employment goals. Some AYA survivors experience what Cantrell and Conte (2009) and Jones et al. (2011) have suggested is a paradox of reality, or an identity paradox, as they transition into adulthood while also discovering what it means to be a cancer survivor. Conflicting emotions can include feeling hope for the future as a cancer survivor in the midst of fear and anxiety of a recurrence of cancer. Such paradoxical emotional experiences can complicate the development of identity. Additionally, the added layer of parents and survivors viewing the AYA survivor as medically vulnerable can lead to smothering, less healthy risk taking, and a possible foreclosed identity for the survivor. Thus, identity formation for AYA survivors must include exploring paradoxical emotions, integrating conflicting states, and reinventing the self (Cantrell & Conte, 2009). While cognitive behavioral and psychoeducational interventions are helpful for addressing psychosocial stressors, these interventions do not directly address the complexity of identity development for AYA survivors. Psychodynamically-oriented interventions that address deeper processes related to identity development are warranted.

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Symposium 39B

PSYCHOSOCIAL SEQUELAE OF CHILDHOOD CANCER EXPERIENCES AND NEUROPSYCHOLOGICAL PATTERNS OF COPING

Dr. Anne T. Nolt, PhD, ABPP-CN

As a result of prolonged early life stress and the unstable experience of cancer, adolescent and young adult (AYA) survivors of childhood cancer are confronted with formidable psychological and social hurdles. Research has shown that they have more difficulties finding and maintaining employment, accomplishing educational goals, and navigating social relationships than young adults who have not had to contend with cancer. In addition, the transition into adulthood can be particularly challenging for AYA survivors as the result of current psychosocial symptoms that compound sequelae of early life stress. AYA survivors who experience physiological and neuropsychological deficits often find the process of coping hindered by negative experiences and emotions. They tend to appraise negative experiences in a reactive manner rather than adapt to their circumstances. Thus, AYA survivors can default to a reactive response pattern leading to avoidance of developmental tasks. Cognitive behavioral interventions that promote increased awareness and tolerance of negative emotions have been found to be effective in assisting AYA survivors in overcoming psychosocial challenges. Such interventions can include, but are not limited to, mindfulness meditation, cognitive reframing/restructuring, and emotion regulation.

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Symposium 39C

INCORPORATING ART THERAPY INTERVENTIONS INTO PREVAILING THERAPEUTIC FRAMEWORKS WITH AYA SURVIVORS OF CHILDHOOD CANCER

Bri Staley Shumaker, MA

Art therapy interventions have been found effective with all types of cancer patients and survivors. Some benefits include relaxation, reduction of negative emotions, increased self-awareness, and increased positive emotions. Patients can dynamically use images in order to share, process and integrate internal experiences. One specific art intervention that has been found beneficial with certain populations is the mandala, a circular design containing emotionally laden material from the patient (Henderson et al., 2007). The mandala is understood by art therapists as a symbol of wholeness, a way to integrate an individual's thoughts, emotions and past experiences into identity. Due to the complex experiences of AYA survivors, therapists can incorporate art therapy interventions, such as the mandala, into their current therapeutic framework in order to further assist AYA survivors in their developmental trajectory. Similarly, music interventions can encourage emotional and identity development by decreasing stress and anxiety (Hammer, 1996; Pelletier, 2004), facilitating space for deeper contemplation, and increasing awareness of emotions through mind-body connection (Lusebrink, 2004).

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Symposium 40 8:15 AM-9:30 AM

CLINICAL APPLICATIONS OF CANCER GENOMIC TECHNOLOGIES: PATIENTS' PREFERENCES AND RESPONSES

Catharine Wang, PhD, MSc¹, Jada G. Hamilton, PhD, MPH², Kimberly A. Kaphingst, ScD³, Suzanne C. O'Neill, PhD⁴, Jennifer Hay, PhD²

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Rapid technological advances mean that genomic information is playing an increasingly important role in cancer research and clinical care. However, our knowledge is still limited regarding what types of genomic information different patients want to receive and how individuals respond to this information. Examining such questions is critical to developing effective ways of delivering genomic information that meet the needs of patients. This session will highlight recent work that investigated information preferences for and responses to genomic information among cancer patients. The first speaker will present a qualitative interview study that investigated anticipated decision-making among patients with advanced cancers related to receipt of incidental findings generated by tumor genomic profiling; the study identified factors that patients felt would be influential in their decisions and highlighted the importance of the doctor-patient relationship in these decisions. The second speaker will present findings from a quantitative survey that examined psychosocial and clinical factors related to interest in return of different types of individual results from genome sequencing among women diagnosed with breast cancer at a young age, which showed that psychosocial factors (i.e., worry, knowledge, information orientation) were more predictive of interest than clinical factors (BRCA1/2 mutation status and prior genetic testing). The third speaker will present a prospective study examining whether women newly diagnosed with breast cancer adjust their perceived risk of recurrence based on estimates generated through genomic tumor profiling, finding that adjustments in perceived risk occurred among women who received low risk results but not among those who received intermediate or high risk results. The discussant will then conclude with discussion of the psychosocial implications of this work for use of cancer genomic information in clinical settings and suggest future directions for research to advance our understanding of how patients respond to genomic information.

Symposium 40A

ADVANCED CANCER PATIENTS' DECISION-MAKING PREFERENCES REGARDING INCIDENTAL FINDINGS FROM TUMOR GENOMIC PROFILING

Dr. Jada G. Hamilton, PhD, MPH

Background: In patients with advanced cancers, tumor genomic profiling (TGP) can guide targeted treatments and clinical trial participation. TGP involves sequencing the DNA in a patient's tumor and normal cells, and can reveal "incidental findings" (IF) regarding a patient's inherited disease risks. IF can have conflicting benefits and harms for patients and their families, and little is known about how to help advanced cancer patients make the complex decision about whether or not to learn these results. **Method:** We interviewed 40 patients with advanced breast, bladder, colorectal, or lung cancer who had TGP at our institution (10 patients per cancer; 63% female, 85% white, ages 30–82). Patients were not offered their IF, but were asked to discuss their anticipated decision-making process for learning these results. We evaluated transcribed interviews using a thematic content analysis approach consisting of coding and interpretation of the data by team consensus. **Results:** We identified themes regarding influential decision-making factors, pros/cons of learning IF, roles of patient and family, and doctor-patient interactions. To make a decision about learning IF, patients anticipated weighing advantages including the inherent value of information and ability to prepare for the future, learn their families' risks, and altruistically help others against disadvantages such as privacy concerns and the limited utility of IF for their health given their prognosis/age. Many would seek advice or opinions from their families, but nearly all patients believed the decision was ultimately their own. Quality of the doctor-patient relationship would be important, as would the doctor's ability to address fundamental concerns about types of risk information revealed and its immediate effect on their health. **Conclusion:** By identifying the information, benefits, and harms that advanced cancer patients value for themselves and their families, these results can shape future interventions to help patients and doctors make informed decisions about IF.

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Symposium 40B

PSYCHOSOCIAL AND CLINICAL FACTORS AFFECTING INTEREST IN GENOME SEQUENCING RESULTS AMONG YOUNG BREAST CANCER PATIENTS

Kimberly A. Kaphingst, ScD

Introduction The increasing importance of genome sequencing in research and clinical care heightens the need to examine what results individuals want returned and factors that affect these preferences. We examined this issue among women diagnosed with breast cancer at a young age. **Methods** We conducted an online survey of 1080 women diagnosed with breast cancer at age 40 or younger, and assessed interest on seven-point scales from "not at all" to "very" in receiving different types of genome sequencing results (affect risk of preventable disease, unpreventable disease, or treatment response; uncertain meaning; affect relatives' health; ancestry/physical traits). We used multivariable logistic regression to examine whether being very interested in each result type was associated with clinical (BRCA1/2 mutation status, prior genetic testing, family history of breast cancer) or psychosocial (genome sequencing knowledge, cancer recurrence worry, genetic risks worry, future orientation, health information orientation) factors. **Results** Most (77%) had prior genetic testing. About 28% had a strong family history of breast cancer; 11% carried a BRCA mutation. The proportion very interested ranged from 77% for variants affecting risk of preventable disease to 16% for variants with uncertain meaning. In all multivariable models, those who were very interested in a result type had significantly higher knowledge about benefits of genome sequencing, greater genetic risks worry, and stronger health information orientation compared to those with less interest. **Discussion** Psychosocial factors were stronger predictors of interest in return of genome sequencing results than clinical factors. This suggests that shared-decision making approaches that provide genetics education and incorporate health information preferences may support patients' choices about return of results.

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Symposium 40C

DEFENSIVE PROCESSING OF HIGH RECURRENCE RISK RESULTS FOLLOWING GENOMIC TUMOR TESTING

Dr. Suzanne C. O'Neill, Ph.D

BACKGROUND: Practice guidelines incorporate genomic tumor profiling, using results of tests such as the OncoType DX, to refine recurrence risk (RR) estimates for breast cancer patients with early-stage, ER+ disease. These results provide a quantitative risk of recurrence score (0–100), which provides opportunity for patients to gain an accurate understanding of their risk and to apply this information to treatment decisions. It is unknown whether women hold accurate perceived risk of recurrence following testing and whether accuracy varies by test result. **METHOD:** Participants were 181 women (mean age 56) newly diagnosed with breast cancer with low ($n=103$), intermediate ($n=60$) or high ($n=18$) RR. We prospectively assessed the change in their perceived RR from pre to post-test using a standard item, “What do you think the chance is that your breast cancer will come back or spread to other parts of the body? Please choose a number from 0–100%.” **RESULTS:** Pretest perceived risk for recurrence was similar across groups ($M=22.18$, $SD=22.18$). Women with low RR scores saw a significant decrease in their perceived risk of recurrence from pre to post-test (23 vs. 16, $t=3.61$, $p<.001$), closer to their mean RR score ($M=10.65$). In contrast, women who received a high RR score did not significantly alter their perceived risk of recurrence (21 vs. 19, $t=.28$, $p=.78$) despite receiving higher RR scores ($M=40$). While perceived risk of recurrence was not significantly different from pre to post-test for women who received intermediate RR scores (21 vs. 18, $t=.75$, $p=.46$), these RR scores ($M=22$) are similar to the sample’s pre-test perceived risk. **CONCLUSION:** Learning one’s risk for breast cancer recurrence may elicit defensive processing, leading women to reject this important risk information. Efforts should continue to focus on ensuring that patients have accurate understandings of their risk of recurrence and the rationale for treatment recommendations.

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Symposium 41

8:15 AM–9:30 AM

HIGH-RISK PATIENT GROUPS WITH OBESITY AND IMPLICATIONS FOR TAILORING WEIGHT LOSS TREATMENTS

Robin M. Masheb, Ph.D.¹, Shira Maguen, Ph.D.², Diana Higgins, Ph.D.³, Corrine Voils, Ph.D.⁴

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Obesity is a leading cause of preventable death, one of the most serious public health problems and, despite its prevalence, one of the most highly stigmatized conditions in the US. The federal NHANES (2007–2008) estimates that over two-thirds of the US population is overweight and 34 percent is obese. Disparities in rates of obesity have been well-established among racial, ethnic and socioeconomic groups and efforts are underway to tailor weight loss treatments for these populations. Less well-known are disparities in rates of obesity among particular high-risk patient groups, and to what extent weight loss programs should be tailored for these populations. For example, Binge Eating Disorder (BED) is the most common eating disorder in the US, affecting approximately 3 percent of the general population, but 30 percent of those who are overweight and seeking weight loss treatment. Veterans comprise another patient group disproportionately affected by obesity, both in terms of prevalence and poor weight loss outcomes. Among those seeking care from the VA, 77 percent are classified as overweight/obese compared to 68 percent of the general population. Most recently, patients with chronic pain have been identified as a high-risk group affected by overweight as the obesity epidemic has been implicated as one of the major contributors to the rise in chronic pain. The objective of this symposium is to enhance our understanding of the prevalence, correlates and implications of obesity among these high-risk patient groups. The first presenter, Dr. Masheb, will discuss correlates of pain in patients with comorbid obesity and binge eating disorder. The second presenter, Dr. Maguen, will present on demographic and clinical factors associated with weight loss participation among veterans. The final presenter, Dr. Higgins, will describe the results from a national sample of overweight/obese veterans with pain. The discussant and presenters will allow time for a discussion and debate on the pros and cons of tailoring interventions for these high-risk patient groups.

Symposium 41A

CORRELATES OF PAIN IN PATIENTS WITH COMORBID OBESITY AND BINGE EATING DISORDER

Dr. Robin M. Masheb, Ph.D.

Background: Obesity is one of the most serious public health problems faced by our nation. While two-thirds of Americans are overweight/obese, the prevalence of overweight and obesity is greater among certain high-risk clinical populations including patients with pain, and patients with Binge Eating Disorder (BED). The present study assessed for sex differences and correlates of pain in a sample of patients with obesity and BED. **Methods:** 152 treatment seeking patients with these comorbid conditions completed the Brief Pain Inventory (BPI) that is comprised of the Pain Severity and Pain Interference subscales. Anthropometric measures, self-report measures of eating and physical activity, and blood draws for metabolic markers, were also completed. Analysis of variance was utilized to compare women and men on the pain subscales. A correlational analysis, overall and by sex, was performed between the pain subscales, and the eating, physical activity and metabolic measures. Women reported significantly greater pain severity and pain interference than men ($p's<.0001$). Results: Among women, pain measures were not associated with eating, physical activity, or metabolic markers. Among men, pain severity and pain interference were significantly related to binge frequency ($r=.37$, $p<.05$; $r=.42$, $p<.01$, respectively), and pain severity was significantly related to both HDL cholesterol and fasting glucose ($r=-.45$, $p<.05$; $r=-.57$, $p<.001$, respectively). **Conclusions:** Similar to other samples of pain patients, women with comorbid obesity and BED reported more severe pain, and greater pain interference, than men. Men with pain, however, were more likely to suffer from binge eating and metabolic abnormalities. The presence of pain among men seeking treatment for BED may warrant additional medical attention.

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Symposium 41B

IRAQ AND AFGHANISTAN VETERANS WITH PTSD PARTICIPATE LESS IN VA'S WEIGHT LOSS PROGRAM THAN THOSE WITHOUT PTSD

Shira Maguen, Ph.D.

Background: Three-quarters of Iraq and Afghanistan veterans enrolled in Veterans Health Administration (VHA) care are overweight or obese. The VHA MOVE!® weight management program provides veterans with services to mitigate the risks of obesity-related morbidity. However, many Iraq and Afghanistan veterans experience barriers to VHA services, which may affect participation, especially among those with posttraumatic stress disorder (PTSD) and/or depression. Despite high rates of overweight/obesity among recent veterans, little is known about their engagement in MOVE!. We describe a retrospective evaluation of MOVE! participation among Iraq and Afghanistan veterans with and without mental health problems. **Methods:** As part of a national VHA mental health evaluation study, we accessed VHA patient care databases to identify Iraq and Afghanistan veterans receiving care from 2008–2013 who had >1 MOVE! visit(s) and >1 weight measurements ($N=24,899$). We used logistic regression to determine whether mental health conditions were associated with having 12 visits/year (desirable dose of care), adjusting for demographic, health, and utilization factors. **Results:** Among Iraq and Afghanistan veterans enrolled in MOVE!, 4% had a desirable dose of participation. In adjusted models, desirable MOVE! participation was more likely among those without PTSD; those who were older, female, and unmarried; and those who had higher baseline weight, more medical comorbidities, no pain, psychotropic medication use, higher disability ratings, and more mental health visits. **Conclusions:** Iraq and Afghanistan veterans, particularly those with PTSD, had low participation in VHA weight management programming. Correlates of MOVE! participation were identified, highlighting opportunities to tailor MOVE! to improve participation for these veterans.

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Symposium 41C

PREVALENCE AND CORRELATES OF PAINFUL CONDITIONS AND MULTIMORBIDITY IN A NATIONAL SAMPLE OF OVERWEIGHT/OBESE VETERANS

Diana Higgins, Ph.D.

Chronic pain and overweight/obesity are prevalent public health concerns and occur at particularly high rates among veterans. This study examined the prevalence and correlates of two common painful conditions (back pain, arthritis) among overweight/obese veterans in VHA care. Participants (N= 45,477) completed the MOVE!23, a survey intended to tailor treatment for veterans in VHA's MOVE!® weight management program. Overall, 72% of the sample reported painful conditions, with 10% reporting back pain, 26% reporting arthritis, and 35% reporting both. We used multinomial logistic regression, with "no pain" as the reference category, to examine the association of painful conditions with participant characteristics. After multivariable adjustment, female veterans had higher odds of reporting arthritis and combined back pain and arthritis rather than no pain. Participants with higher BMI had higher odds of reporting arthritis and both back pain and arthritis. The likelihood of painful conditions was higher in Veterans with comorbidities (hypertension, hyperlipidemia, lung disease, depression, anxiety, or PTSD), and generally increased with the number of comorbidities (e.g., 5 or more) reported. Overweight/obese Veterans frequently report painful conditions and, among those with pain, often have multiple comorbidities. These factors may increase the complexity of clinical management and necessitate refinements to weight management programs.

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Symposium 42

8:15 AM-9:30 AM

INNOVATIVE AND CULTURALLY RESPONSIVE INTERVENTIONS TO IMPROVE CANCER SURVIVORSHIP OUTCOMES IN DIVERSE POPULATIONS

Kristi D. Graves, Ph.D.¹, Kimlin T. Ashing, PhD², Hayley S. Thompson, Ph.D.³

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Despite the growing number of cancer survivors in the multi-cultural U.S. and the remarkable success of cancer control efforts in non-Hispanic White populations, there is a dearth of interventions that have been developed specifically for other cultural or ethnic groups. Numerous challenges arise in developing culturally competent interventions for people from diverse cultural backgrounds. This symposium aims to provide insight and lessons learned on how to overcome the challenges. A group of experts will present empirical evidence and strategies of developing and evaluating culturally responsive interventions for cancer survivors from ethnic minority populations. All presenters will examine various aspects of four themes: 1) improving health and quality of life among breast cancer survivors and family members, 2) implementing culturally and linguistically responsive intervention through collaborative and programmatic efforts, 3) focusing on the design, delivery, content, and outcomes of peer led interventions, and 4) discussing challenges, solutions, and lessons learned. The first presenter reports the development and evaluation of a peer mentoring and education intervention among Chinese American breast cancer survivors. The second presenter focuses on initial findings of a randomized controlled trial of a culturally-relevant social support intervention for Latina breast cancer survivors and their caregivers. The third presenter describes a culturally-relevant peer to peer intervention among African American breast cancer survivors to increase survivorship care planning access and adherence. The discussant will synthesize these findings and discuss key components of culturally responsive interventions, the best and innovative practices for addressing disparities, and the remaining gaps to moving the field forward in order to make a significant impact in research and dissemination for diverse populations.

Symposium 42A

JOY LUCK ACADEMY: A PEER MENTOR AND EDUCATIONAL INTERVENTION FOR CHINESE BREAST CANCER SURVIVORS

Qian Lu, M.D, Ph. D.

Background: Minority breast cancer survivors face many challenges due to cultural and linguistic barriers. Past research has shown that social support interventions effectively improve adjustment among non-Hispanic White cancer survivors. However, there is scant information on how to develop culturally competent social support interventions for minority cancer survivors. We previously reported a pilot study that documented an innovative intervention specifically developed for a minority group and found it to be well accepted. The current study evaluated whether the intervention improved quality of life. **Methods:** A community-based participatory research approach (CBPR) was used. Chinese American breast cancer survivors post-treatment (n=90) completed the Joy Luck Academy (JLA), an 8-week program designed to provide emotional and informational support through peer mentoring and education. We assessed quality of life before and after the intervention, and conducted eight weekly process evaluations. Furthermore, we developed a randomized controlled trial to test the effects of JLA. **Results:** Participants highly valued the program. The program was associated with an increase in quality of life from baseline (M = 95.70, SD = 26.83) to follow-up (M = 102.83, SD = 22.43), $t = 3.65$, $df = 89$, $p < .001$, $d = 0.38$. **Conclusions:** The peer mentoring and education program has the potential to serve as a model intervention for successful transition to survivorship after breast cancer treatment for Chinese Americans. Peer mentoring and education programs can be integrated into communities and clinics to improve care for underserved minority cancer survivors. Future studies with randomized controlled trials in this population and pilot testing with other minority groups are warranted to better understand the efficacy and the mechanisms of social support interventions across cultures. Focusing on relationships may be fruitful for designing novel interventions for cancer survivors from collectivistic cultures.

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Symposium 42B

CAREGIVERS OF LATINA BREAST CANCER SURVIVORS: INITIAL OUTCOMES FROM THE NUEVA VIDA INTERVENTION

Dr. Kristi D. Graves, Ph.D.

Background: Few studies to date have explored the quality of life outcomes among caregivers of underserved breast cancer survivors, and fewer still have investigated interventions to improve caregivers' outcomes. The present study evaluated a dyadic psychoeducational intervention with Latina breast cancer survivors and their caregivers that aimed to increase quality of life, social support and communication. **Methods:** Using a patient- and caregiver-centered approach, we implemented a randomized controlled trial to evaluate an intervention developed by a community-based organization that serves Latino families facing cancer. To date, 79 survivor-caregiver dyads (N=158 individuals) have been randomized to the 8-session Nueva Vida Intervention or usual care. We assessed quality of life using domains from the Patient-Reported Outcomes Measurement Information System (PROMIS). We conducted assessments at baseline and post-intervention. **Results:** To date, 29 dyads (n=29 caregivers; 58% women) have completed the post-intervention assessment and 86% of the caregivers report Latino ethnicity. Compared to caregivers in usual care, caregivers in the Nueva Vida Intervention reported improved physical ($t(17)=48.9$, $p<.0001$) and social role functioning ($t(16)=27.5$, $p<.001$), and less fatigue ($t(16)=17.5$, $p<.0001$). Exit surveys confirmed the value of the program to caregivers and identified increased sense of connection between caregivers and survivors. **Conclusions:** Initial results from the Nueva Vida Intervention indicate the acceptability of the intervention to caregivers and improved physical and social functioning. Given the demands of caregiving, finding culturally-appelling approaches to reduce negative psychosocial and physical outcomes in vulnerable groups is important.

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Symposium 42C

IMPLEMENTING A TREATMENT SUMMARY SURVIVORSHIP CARE PLAN INTERVENTION FOR AFRICAN AMERICANS

Dr. Kimlin T. Ashing, PhD

Objective: This study was designed to evaluate the impact of trial participation on access to survivorship care planning (SCP) and adherence to surveillance recommendations among African American breast cancer survivors (AABCS). **Methods:** AABCS were recruited from the State Cancer Registry and support groups and randomized to receive either 1) peer navigation + clinically- and culturally-informed breast cancer (BC) materials, or 2) clinically- and culturally-informed BC materials, only. To increase cultural grounding and community relevance and acceptability: 1) AABCS ($N=29$) from advocacy groups were trained as peer navigators, with on-going supervision by the research team; 2) The ASCO SCP template was adapted, with input from community advocates, to increase its clinical, cultural, and socio-ecological relevance for AABCS; and 3) The study was rooted in the community based-participatory research (CBPR) approach, implemented using a randomized controlled trial design. Mailed, self-report assessments were taken at baseline and at 6- and 12-month follow-up. **Findings:** In total, 112 AABCS who were 6-18 months post initial primary treatment for stage 0-3 BC participated in the study. There was a 74% participation rate and a 64% completion rate. At 6- and 12-month follow-up, 45% and 63% reported access to a SCP, respectively. Statistically significant improvements from baseline to 6- and 12-month follow-up assessments were observed in adherence to SCP surveillance recommendations regarding physical exam (42.0%, 59.8%, 70.5%, respectively), pelvic exam (36.6%, 47.3%, 44.6%, respectively), breast self-exam (56.1%, 67.3%, 79.6%, respectively), and breast imaging (56.1%, 72.4%, 72.4%, respectively). There were no significant demographic, medical or study outcome differences by study condition. **Conclusions:** Our study findings demonstrate the effectiveness of trial participation in facilitating access to SCP and improved adherence to recommended surveillance. Participation of survivor-advocates in developing culturally-informed BC informational and survivorship care strategies may be critical to enhancing acceptability and utility of intervention strategies, to meaningfully address cancer survivorship inequities.

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Symposium 43

8:15 AM-9:30 AM

INNOVATIVE STRATEGIES TO ASSESS AND TARGET SEDENTARY BEHAVIOR ACROSS THE LIFESPAN

Genevieve F. Dunton, PhD, MPH¹, Dale S. Bond, PhD², Abby King, PhD³, Melissa Napolitano, PhD⁴, Beth Lewis, PhD⁵

¹University of Southern California, Los Angeles, CA; ²Brown Alpert Medical School/The Miriam Hospital Weight Control and Diabetes Research Center, Providence, RI; ³Stanford University School of Medicine, Stanford, CA; ⁴The George Washington University, Washington, DC; ⁵University of Minnesota, Minneapolis, MN

Increasing evidence links sedentary behavior to negative health outcomes. The assessment and intervention tools and strategies to target decreasing sedentary (SED) behavior need increasing focus to ensure effective measurement and outcomes. This Symposium will examine innovative strategies for targeting sedentary behavior. The focus on this session will involve both assessment and intervention design, delivery and efficacy among different populations, including parent-child dyads and adults. Speaker 1 will present on the feasibility, acceptability and validity of using Ecological Momentary Assessment (EMA) delivered via smartphones to assess sedentary behavior among 131 parent-child dyads. Results generally support the feasibility and validity of using 4 days of monitoring. Speaker 2 will present data on a smartphone-based intervention designed to monitor and decrease SED among 30 overweight/obese individuals. The program, which compared 3 approaches for encouraging physical activity (PA) breaks and delivering feedback on SED, significantly reduced SED. Results indicate that prompting frequent short activity breaks may be the most effective way to decrease SED and increase PA in overweight/obese individuals. Speaker 3 will present on data from a study of 93 adults ages 45 and older who were initially engaged in prolonged daily sitting. This randomized controlled study compared the relative efficacy of three different theory-based smartphone applications (apps) relative to a control app in increasing physical activity and reducing accelerometer-derived sedentary behavior across eight weeks. The results indicated that the socially framed app was particularly effective, relative to the other three apps, in both increasing moderate-to-vigorous physical activity and reducing sedentary behavior during this initial adoption period. Finally a discussion will comment on the challenges, pitfalls, and future directions of using technology for assessing and intervening on sedentary behavior among different populations.

Symposium 43A

VALIDITY AND UTILITY OF ECOLOGICAL MOMENTARY ASSESSMENT METHODS TO CAPTURE SEDENTARY SCREEN BEHAVIORS IN MOTHERS AND CHILDREN

Dr. Genevieve F. Dunton, PhD, MPH

Many challenges exist in measuring sedentary behaviors in adults and children. Self-report methods are vulnerable to recall biases, and objective monitoring does not capture contextual information such as type of sedentary behavior, concurrent activities, and social setting. This presentation will examine the validity and utility of using Ecological Momentary Assessment (EMA) methods to capture sedentary screen time and related contexts. Participants included 179 mothers and their 8-12 year old children. A smartphone app collected EMA data across 7 days, with up to 7 random EMA prompts per day per member of the dyad. Each EMA prompt assessed whether sedentary screen behavior (i.e., TV, videos, or video games) or eating (e.g., pastries/sweets, soda, fast food, chips/fries) had occurred in the past two hours. EMA items also assessed with whom (e.g., alone, with child) sedentary screen behaviors were performed. Mothers and children each wore an Actigraph accelerometer across the 7-day assessment period. On average, 21% (mothers) and 48% (children) of EMA prompts reported sedentary screen behavior occurring during the past 2 hours. Accelerometer measured sedentary activity minutes were higher over the previous 2 hour period for EMA prompts when sedentary screen time was reported as compared to not reported (83 min. vs. 78 min for mothers, 68 min. vs. 61 min. for children; $p's < .05$). Mothers indicated that 28% of their sedentary screen behavior occurred alone and 56% occurred with their children. Compared to 2-hour blocks where no sedentary screen behaviors were reported; children were twice as likely to consume chips and fries (14% vs. 7%), pastries and sweets (18% vs. 9%), fast food (9% vs. 5%), and soda (13% vs. 6%) during 2-hour blocks with sedentary screen time ($p's < .05$). Results provide initial evidence for the validity of sedentary screen behaviors assessed through EMA. The findings that over half of mother's sedentary screen time occurred with children, and children were more likely to consume unhealthy foods during sedentary screen behaviors highlight areas for intervention. This presentation will conclude by discussing the strengths and challenges of using EMA methods in to capture sedentary behaviors in large-scale epidemiological and intervention studies.

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Symposium 43B

B-MOBILE: A SMARTPHONE-BASED INTERVENTION TO REDUCE SEDENTARY BEHAVIOR IN ADULTS WITH OBESITY

Dale S. Bond, PhD

BACKGROUND: Sedentary behavior (SED) and inactivity [i.e. lack of moderate-to-vigorous physical activity (MVPA)] represent distinct behavioral challenges and thus require different intervention approaches. SED, unlike MVPA, accounts for most waking hours, occurs in multiple forms and settings, and with little awareness. Mobile health (mHealth) technology provides a powerful means for intervening on SED given its ability to target all forms of SED across all settings, automate SED monitoring and PA break prompts, and provide immediate reinforcement for substituting light PA (LPA) or MVPA for SED. This approach is exemplified in *B-MOBILE*, a smartphone-based intervention to decrease SED, which was tested with 3 approaches to prompting PA breaks and delivering feedback on SED. **METHODS:** Thirty adult participants (Age=47.5±13.5 yrs; 83% women; 33% Non-White; BMI=36.2±7.5 kg/m²) completed three conditions presented in a randomized counterbalanced order involving smartphone prompts for walking breaks of (1) 3-min after 30 SED min; (2) 6-min after 60 SED min; and (3) 12-min after 120 SED min. Participants wore a multi-sensor monitor to objectively measure SED for 7 d during baseline and each of the 3 conditions. **RESULTS:** On average, participants carried the smartphone for 14.9 h/d on 6.9 d during each condition. The 3- and 6-min conditions yielded the greatest number of prompts, walking breaks, and fastest adherence to prompts. Compared to baseline, all 3 conditions significantly decreased average % time spent in SED, both overall and in prolonged bouts ≥30 min ($p's < .05$). **CONCLUSIONS:** mHealth approaches, such as *B-MOBILE*, may be particularly advantageous for interrupting SED with LPA and MVPA. Prompting frequent short interruptions in SED may be the most effective way to not only decrease SED but also change how it is accumulated.

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Symposium 43C

EFFECTS OF THREE DIFFERENT MOTIVATIONALLY TARGETED MOBILE DEVICE APPLICATIONS ON INITIAL PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOR CHANGE IN MIDLIFE AND OLDER ADULTS

Dr. Abby King, PhD

While there has been an explosion of mobile device applications (apps) promoting healthful behaviors, surprisingly few have been based explicitly on strategies drawn from behavioral theory and evidence. This study provided an initial 8-week evaluation of three different customized physical activity-sedentary behavior apps drawn from conceptually distinct motivational frames in comparison with a commercially available control app. Ninety-three underactive adults ages 45 years and older with no prior smartphone experience who reported sitting for 10 or more hours per day were randomized to use customized apps that were either analytically, socially, or affectively framed, or a commercial diet-tracker control app. Daily physical activity and sedentary behaviors were measured using the smartphone's built-in accelerometer and daily self-report measures. Mixed-effects models indicated that, over the 8-week period, the Social app users showed significantly greater overall increases in daily accelerometry-derived moderate to vigorous physical activity relative to the other three arms ($p < .04$), while more variable responses were observed among users of the other two motivationally framed apps. Social app users also had significantly lower overall amounts of accelerometry-derived sedentary behavior relative to the other three arms ($p < .02$), and Social and Affect app users reported lower overall sitting time compared to the other two arms ($p < .001$). The results provide initial support for the use of a smartphone-delivered social frame in the early induction of both physical activity and sedentary behavior changes. The information obtained also sets the stage for further investigation of subgroups that might particularly benefit from different motivationally framed apps in these health promotion areas.

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Symposium 44

8:15 AM-9:30 AM

THE BIO-PSYCHO-SOCIAL FACTORS INFLUENCING PAIN AND IMPACT OF PAIN ON FUNCTION IN THE POST HIP FRACTURE PERIOD

Barbara Resnick, PHD, CRNP, FAAN,FAANP¹, Jennifer Klinedinst, PhD, RN¹, Laura Yerges-Armstrong, PhD², Susan Dorsey, PhD, RN, FAAN¹

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Hip fractures commonly occur among older adults with over 1.5 million occurring each year worldwide. The return to physical function is influenced by many factors, including cognitive status, prefracture functional ability, type of surgical interventions, age, other comorbid conditions and course following surgery. In addition, the presence of pain can lead to a progressive decline in function and greater disability. The relationship between pain and function is also influenced by the anatomical location of the pain, the intensity of the pain and whether there are multiple sources or sites of pain. Age-related changes in the structure, function, and chemistry of the nervous system may alter the perception of pain. The genetic influences of pain perception and interpretation have been considered. To date, candidate gene analyses in pain research have focused mainly on 10 genes that were identified either in animal models or humans. These genes include: *BDNF*, *FKBP5*, *NTRK2*, *NTRK3*, *OXTR*, *NTRK1*, *DRD4*, *SLC6A4*, *COMT* and *MAOA*. Replication of these associations has not been consistent across studies and patient populations. Moreover, there have been no prior studies examining genetic factors that are associated with pain and subsequent function among older adults post-hip fracture. The purpose of this symposium is to explore the factors that influence pain and function in the early post hip fracture period. Understanding these factors is critical to the development of behavioral change interventions to manage pain and optimize function post hip fracture. We developed and tested a model explaining these factors. The papers will describe the overall model tested, delineate the SNPs and associated genes that were noted to influence pain and the final paper will describe our novel genetic finding associated with pain in which evidence for a genotype/pain phenotype association with SNPs in the 3'UTR of the *trkB.T1* receptor gene *NTRK2* and next steps for understanding the relationship between pain and behavior.

Symposium 44A

BIO-PSYCHO-SOCIAL MODEL TESTING OF FACTORS INFLUENCING FUNCTION IN THE POST HIP FRACTURE PERIOD

Barbara Resnick, PHD, CRNP, FAAN,FAANP

Based on theory and prior research a model of factors influencing function in the post hip fracture period was developed. The hypothesized model suggested that relevant demographic and descriptive factors as well as genetic variability would be associated with total areas of pain and total pain intensity and that all of these variables would directly and indirectly be associated with upper and lower extremity function at 2 months post hip fracture. This was a secondary data analysis using data from the first 200 participants in a Baltimore Hip Study (BHS), BHS-7. Assessments done at 2 months post hip fracture were used for all analyses. Measures included age, gender, marital status, education, cognitive status, comorbidities, Body Mass Index (BMI), upper and lower extremity function, SNPs from 10 candidate genes, and total areas of pain and pain intensity measured using a numeric rating scale for each area of pain reported. Model testing was done using the AMOS statistical program. The sample included 172 participants with an average age of 81, average BMI of 25 and a mean of 82 on the Modified Mini Mental State Exam. Fifty percent were female and the majority was of European ancestry (93%). Participants reported 2 areas of pain with a mean pain intensity of 12. Overall participants needed help with 3 out of 4 upper extremity and 7 out of 12 lower extremity functional tasks. Age, cognition and BMI were significantly associated with total areas of pain and pain intensity. With age the participants reported more areas of pain but overall less intensity of pain. Thirty SNPs from five genes (*BDNF*, *FKBP5*, *NTRK2*, *NTRK3*, and *OXTR*) were associated with total areas of pain and or pain intensity. Together these variables explained 25% of total areas of pain and 15% of pain intensity. Only age and cognition were significantly associated with lower extremity function explaining 25% of the variance in lower extremity function. Although pain is present in the early post hip fracture period it does not seem to influence function. Based on findings, interventions to optimize function among these individuals will be reviewed.

Symposium 44B

GENETIC VARIATION IS ASSOCIATED WITH AREAS OF PAIN AND PAIN INTENSITY AMONG HIP FRACTURE PATIENTS

Jennifer Klinedinst, PhD, RN

Age-related changes in the structure, function, and chemistry of the nervous system may alter the perception of pain. The functional reserve capacity of the pain system diminishes with age as indicated by an increased pain threshold but decreased pain tolerance. Gaining an understanding of the genetic influences on pain after hip fracture may lead to targeted behavioral interventions that can modify these pathways and reduce recovery pain. To date, candidate gene analyses in pain research have focused mainly on 10 genes that were identified either in animal models or humans to be associated with pain including: *BDNF*, *FKBP5*, *NTRK2*, *NTRK3*, *OXTR*, *NTRK1*, *DRD4*, *SLC6A4*, *COMT* and *MAOA*. We tested the influence of common single nucleotide polymorphisms (SNPs) on both total areas of pain (0-5) and summed pain intensity rating of each area (0-10 for each, total possible intensity 0-50) using path analysis in a sample of 172 hip fracture patients. Thirty SNPs from five genes (*BDNF*, *NTRK2*, *NTRK3*, *FKBP5*, and *OXTR*) were significantly associated with either total areas of pain or total pain intensity in our model. A single SNP in *BDNF*, rs11602246, was associated with total areas of pain. Multiple correlated SNPs [linkage disequilibrium (LD) $r^2 > 0.92$] from the *FKBP5* locus were associated with total areas of pain. Three SNPs from *NTRK2* and three SNPs from *NTRK3* were significantly associated with total areas of pain. Fourteen SNPs from *NTRK2* and two SNPs from *NTRK3* were associated with total pain intensity. The remaining two SNPs from *NTRK3* were significantly associated with both total areas of pain and total pain intensity. All of the variants in the *NTRK2* gene had high pair-wise LD ($r^2 > 0.86$) except for rs10780688. This indicates that there is likely a signal association in each of these candidate genes. A single SNP in *OXTR*, rs2270465, was associated with total pain intensity. Therefore, genetic polymorphisms in these genes may provide insight as to whether behavioral interventions should be targeted toward pain sensation or pain tolerance among older adults post hip fracture.

Symposium 44C

GENETIC CORRELATES OF PAIN: FROM BENCH TO BEDSIDE

Susan Dorsey, PhD, RN, FAAN

It is well established that individuals with seemingly identical illnesses or injury will report vastly different levels of pain. Some of these differences can be explained by variability in the severity of the illness/injury or variability in the underlying pathology or treatment strategies. However, individual differences in pain reports are also found in experimental pain studies where the stimuli are precisely controlled and identical across participants. For example, in experimental acute pain models in healthy volunteers, standard noxious stimulation can elicit a spectrum of responses from near zero (little to no pain) to ratings that place the stimuli in the worst imaginable pain range. Moreover, data from twin studies reveal that heritability also significantly contributes to pain phenotype. In the neuropathic pain field, candidate gene and small Genome Wide Association Studies (GWAS) efforts have produced several viable genetic variants associated with acute and persistent pain conditions, including transporters, receptors, transcription factors, cytokines and ion channels. Recent clinical studies in temporomandibular joint disorder (TMD) patients have identified several common haplotypes of the *COMT* gene that are significantly associated with pain sensitivity and the likelihood of developing TMD in as few as 200 subjects. Moreover, follow up laboratory studies demonstrated that these *COMT* haplotypes have functional relevance, including the modulation of protein expression via alterations in the mRNA secondary structure. Moreover, we and others have identified differentially regulated genes in pre-clinical rodent models that provide mechanistic insight into the potential contribution of genetics to chronic pain development and severity. Our recent studies in hip fracture patients demonstrate an association with SNPs in candidate genes and pain. In this session, a review of the current state of the science in genetics of pain and future directions will be discussed.

Symposium 45

8:15 AM-9:30 AM

DEVELOPING AND TESTING THEORY-BASED DIGITAL BEHAVIORAL INTERVENTIONS

Kevin Masters, PhD¹, Susan Michie, PhD², Robert West, PhD², David M. Williams, PhD.³

¹University of Colorado Denver, Denver, CO; ²University College London, London, United Kingdom; ³Brown University School of Public Health, Providence, RI

Developing digital behaviour change interventions (DBCIs) could be made more efficient by improving linkage with underpinning theory. DBCIs allow studies to capture much larger amounts of data than previously possible, and new study designs and methods for evaluating complex interventions enable effective components within them to be identified. These advances provide improved opportunities for testing and improving behaviour change theories.

This symposium will present three aspects of developing theory-based interventions, providing examples in two behavioural domains. In the first talk, Kevin Masters will discuss a “psychometric” method of developing theory-based interventions, illustrating it with a smartphone application for increasing daily activity. In the second, Susan Michie will present (i) a multidisciplinary programme of research developing a methodology for systematically identifying hypothesised links between behaviour change techniques and mechanisms of action and (ii) data from an analysis of >300 published interventions. In the third presentation, Robert West will consider how analysis of smoking cessation apps available in the market place in terms of use of theory-linked behaviour change techniques may be used to evaluate those apps and inform development of improved apps.

All three talks will discuss the rationale of approach, development of methods to date, and both current and potential applications. The symposium will end with a discussion, led by David Williams, of challenges and opportunities for these emerging methods of applying theory to intervention development and evaluation.

This symposium is sponsored by the Theories and Techniques of Behavior Change Interventions SIG.

Symposium 45A

DEVELOPING AND TESTING THEORY-BASED BEHAVIORAL INTERVENTIONS: EXAMPLE FROM THE COLORADO MEANING-ACTIVITY PROJECT (CO-MAP)

Professor Kevin Masters, PhD

There has been a notable disconnect between theories of behavior change and behavior change interventions. Because few interventions are adequately theory-based, investigators cannot assess the impact of theory on intervention effectiveness. To test theories, interventions that are theory-based, meaning their components explicitly engage the theory's proposed mechanisms of change, must be available. Thus, researchers need to utilize systematic approaches to intervention development. This presentation will discuss the “psychometric” method of developing theory based interventions. The psychometric approach to intervention development utilizes basic psychometric principles at each step of the intervention development process in order to build a theoretically driven intervention to, subsequently, be tested in process (mechanism) and outcome studies. The first step is choosing the theory to employ and simultaneously identifying the principal active constructs that characterize the theory's behavior change mechanisms. This sets the conceptual boundaries for the intervention. The next step is for the development team to map initial intervention components onto the theoretical constructs. Subsequently, intervention fidelity to theory is assessed. This is first done with experts in the theoretical approach and, following revision, with initial pilot recipients of the intervention drawn from the relevant population. This iterative process continues until the intervention is ready for a trial of its mechanisms in a pilot study. An example of this approach will be presented from the Colorado Meaning-Activity Project (Co-MAP). Based on self-determination theory integrated with meaning/purpose, and utilizing a motivational interviewing approach, the Co-MAP intervention is individually based with an initial interview and then smart phone delivered interventions for increasing daily activity. The general aims of this talk are to present: (1) one method of designing a new theory-based intervention; and (2) an example of an innovative meaning-based intervention for PA behavior change.

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Symposium 45B

A METHODOLOGY FOR LINKING BEHAVIOUR CHANGE TECHNIQUES TO MECHANISMS OF ACTION

Professor Susan Michie, PhD

Understanding how interventions influence behaviour and health requires knowledge of the mechanisms through which behaviour change techniques (BCTs) have their effect. Despite an abundance of BCTs, theories and models of behaviour change, evidence about the relationships between BCTs and their mechanisms of action is limited.

This presentation outlines a research programme examining hypothesised links between BCTs and their mechanisms of action, as explicitly reported in published behaviour change interventions and agreed in an expert consensus exercise. In the first study, data were extracted from a corpus of >300 published studies of theory-based intervention on (i) BCTs, using the 93-item taxonomy BCTTv1 and (ii) links from BCTs to mechanisms of action as hypothesised by authors. A set of 28 frequently cited mechanisms to study were identified from a published review of 83 theories of behaviour change and from the Theoretical Domains Framework. The frequency, explicitness and precision with which a BCT was linked to each mechanism were assessed.

Results are presented in a BCT-mechanism matrix with strength of association for each link informed by frequency, explicitness and precision. For some BCTs (e.g. Goal Setting [Behaviour], Social Support [Unspecified]) there were many links across multiple mechanisms. Roughly one-fifth of BCTs were not linked to a mechanism. BCTs were most frequently linked to self-efficacy. Studies varied in the level of explicitness of the links, and in reporting the full causal sequence (i.e. BCT to mechanism to behaviour).

Current reporting does not enable a shared understanding of *how* BCTs link to behaviour, and improved methods are needed to improve clarity in reporting these links in intervention descriptions. Examining the hypothesised mechanisms of action for individual BCTs contributes to the development of behaviour change science and is likely to prove useful in developing theory-based interventions and in theoretically understanding empirical findings of intervention effects.

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Symposium 45C

ANALYSING THEORY-LINKED BEHAVIOUR CHANGE TECHNIQUES IN SMOKING CESSATION SMARTPHONE APPLICATIONS

Professor Robert West, PhD

With so many smoking cessation smartphone applications (apps) available on the market, and with these evolving rapidly, a method is needed for using behaviour change theory to identify key components that may be relevant to effectiveness. Such a characterisation could be used in comparative studies predicting success rates and for screening apps for inclusion in more resource intensive evaluations and app development. This presentation describes a first attempt to arrive at a reliable system for achieving this and its limitations. This will form a basis for discussion of how this methodology can be improved.

A theory-linked coding system for behaviour change techniques (BCTs) that had been developed to describe face-to-face behavioural support sessions for smoking cessation was adapted for smartphone apps. The coding scheme covered 5 types of BCT that have been linked to higher effectiveness in face-to-face support: supporting identity change, rewarding abstinence, advising on changing routines, advising on coping with cravings and advising on use of stop smoking medicines. The coding scheme was applied to 184 iPhone apps available in 2012 with between 67% and 95% agreement between two independent coders for the BCT types (PABAK coefficients 0.35–0.90). It was then applied to 137 iPhone apps available in 2014 with between 85% and 93% agreement across the BCT types (PABAKs 0.59–0.83). Apps were found to diverge considerably in their use of different types of BCT but, in general, use of evidence-linked BCTs was low, particularly advice on medication use. Use of evidence based BCTs was lower in 2014 than 2012.

Major areas for improvement include: 1) more detailed information on BCTs such as when and how much they feature in the app, and how they are implemented, and 2) a system for characterizing how tailoring and personalisation is implemented.

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Symposium 46

8:15 AM–9:30 AM

CROSSING THE EHEALTH CHASM: TECHNOLOGY-MEDIATED DIABETES PREVENTION AND MANAGEMENT INTERVENTIONS

Karl E. Minges, MPH¹, Lyndsay A. Nelson, PhD², Cameron Sepah, PhD³, Caroline R. Richardson, MD⁴, Robin Whittemore, PhD, APRN, FAAN⁵

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Prevention and management of diabetes is often a complex and challenging task for patients, families and providers. However, the omnipresence of technology in our lives, including mobile devices, computers, and tablets, presents an opportunity to harness such devices to improve intervention delivery and diabetes-related health outcomes. This symposium will present quantitative and qualitative data on how patients with diabetes, including their families and providers, use technology to assist in their diabetes prevention and management goals. Clinical implications and recommendations will also be provided to improve the use of technology for this population. The first presenter will discuss how a text and interactive voice response system affects medication adherence among low SES adults with type 2 diabetes. The second presenter will present the three-year outcomes of an online-based diabetes prevention program. The third presenter will review the results of a meta-analysis that examines the effects of technology-mediated diabetes prevention programs. The discussant will address the specific contributions of these presentations and the potential to design technology-mediated interventions that will strengthen diabetes prevention and management and advance health behavior change among those with or at risk of diabetes.

Symposium 46A

AN SMS AND IVR INTERVENTION IMPROVES MEDICATION ADHERENCE AMONG ADULTS WITH T2DM AND LOW SES

Dr. Lyndsay A. Nelson, PhD

Background: Racial/ethnic minorities with type 2 diabetes (T2DM) and low socioeconomic status (SES) are less adherent to diabetes medications and experience worse diabetes outcomes, yet very few interventions are designed to improve medication adherence for this population. Leveraging functionality shared by all mobile phones provides both the greatest reach to low SES individuals and opportunity to engage them in interventions. We evaluated a theory-based, short message service (SMS) and interactive voice response (IVR) intervention to promote medication adherence among diverse adults with T2DM. **Methods:** Eighty adults with T2DM participated in a 3-month SMS and IVR intervention called Messaging for Diabetes (MED). Participants received daily texts addressing and assessing medication adherence and weekly automated IVR calls with adherence feedback. We collected demographics, responses to the Summary of Diabetes Self-Care Activities (SDSCA) medications subscale, hemoglobin A1c (A1c), and responses to a follow-up survey. We matched study participants with archival controls to examine group differences in 3-month A1c. We evaluated SDSCA trend over time among study participants. **Results:** Participants were 50.1±10.5 years old; 67.5% female; 68.8% non-White; 20% < HS educated; 70.1% annual incomes < \$20K; 63.8% on insulin, with an A1c of 8.2%±2.0%. A1c remained stable at 3 months. Compared to baseline, improved adherence trends were detected at 1 month (AOR: 3.88, 95% CI: 1.79, 10.8) and at 2 months (AOR: 3.76, 95% CI: 1.76, 17.44). Participants rated SMS and IVR as helpful in taking their diabetes medications, yet preferred receiving content via texts over calls. Participants said SMS content was informative and empowering and requested adding texts to help with diet and exercise in addition to medication adherence. **Conclusions:** MED was well-received by low SES, racial/ethnic minorities with T2DM and had a positive, short-term impact on medication adherence. Improving the intervention based on participants' suggestions may translate into improvements in A1c.

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Symposium 46B

THE PREVENT ONLINE DIABETES PREVENTION PROGRAM: THREE-YEAR TRIAL OUTCOMES

Dr. Cameron Sepah, PhD

Background: The field of digital behavioral medicine uses online, evidence-based, behavioral treatments to prevent, treat, and reverse the progression of chronic lifestyle-related diseases. However, few studies have examined long-term clinical outcomes of digital behavioral medicine. The objective of this study was to conduct a 3-year follow-up on participants in the "Prevent" online diabetes prevention program pilot study, specifically examining the effects on body weight and A1c, which are risk factors for diabetes development. **Methods:** Participants underwent a 16-week weight loss intervention and an ongoing weight maintenance intervention. As part of the program, participants received a wireless scale, which was used to collect body weight data on an ongoing basis. Participants also received A1c test kits at baseline, 0.5 year, 1 year, 2-year, and 3-year time points. Outcomes were also benchmarked to the original diabetes prevention program clinical trial's outcomes. **Results:** Participants previously diagnosed with prediabetes (n=220) were originally enrolled in the pilot study. A subset of participants (n=187) met Centers for Disease Control and Prevention (CDC) criteria for starting the program (starters), and a further subset (n=155) met CDC criteria for completing the program (completers) and were both included in analyses. Program starters and completers achieved significant reductions in body weight and A1c after 3 years. **Conclusions:** The Prevent online diabetes prevention program produces significant reductions in body weight and A1c that are maintained after 3 years. Results suggest that Prevent offers an effective and scalable solution for national diabetes prevention efforts, with long-term maintenance of clinically meaningful effects.

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Symposium 46C

THE EFFECT OF TECHNOLOGY-MEDIATED DIABETES PREVENTION INTERVENTIONS ON WEIGHT: A META-ANALYSIS

Dr. Caroline R. Richardson, MD

Lifestyle interventions targeting weight loss, such as those delivered through the Diabetes Prevention Program, reduce risk for developing type 2 diabetes. Technology-mediated interventions may be an option to help overcome barriers to program delivery and to disseminate diabetes prevention programs on a larger scale. We conducted a meta-analysis to evaluate the effect of such mediated interventions on weight loss. In this meta-analysis, six databases were searched to identify studies reporting weight change that used technology to mediate diet and exercise interventions targeting those at high risk for developing type 2 diabetes. Studies published between January 1, 2002 and September 16, 2014 were included. The search identified 633 citations. Of those, 12 studies met the inclusion criteria and evaluated 15 technology-mediated intervention arms delivered to a total of 1318 participants. Study duration ranged from 12 weeks to 2 years. A random-effects meta-analysis showed a pooled weight loss effect of 3.98kg [95% CI: (2.5, 5.5); $p < 0.001$]. Technology-mediated diabetes prevention programs can result in clinically significant amounts of weight loss and have the potential to decrease prediabetes prevalence and diabetes incidence. Interventions modeled from the Diabetes Prevention Program were more effective in causing weight loss than the ones that were not. Technology-mediated interventions are well suited to large-scale implementation, but payment and other implementation barriers need to be addressed.

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Symposium 47

8:15 AM-9:30 AM

IMPORTING, ADAPTING AND EVALUATING OPEN STREETS & CYCLOVIA TO INCREASE PHYSICAL ACTIVITY LEVELS.

David Berrigan, PhD, MPH¹, Olga Sarmiento, MD, PMH, PhD², Michael Pratt, MD, MSPE, MPH³, J. Aaron Hipp, PhD⁴, Gil Penalosa, MBA, PhD⁵, CSP⁵

¹National Cancer Institute, Bethesda, MD; ²University of Los Andes, Bogota, N/A, Colombia; ³Emory University Rollins School of Public Health, Atlanta, GA; ⁴Department of Parks, Recreation, and Tourism Management and Center for Geospatial Analytics, Raleigh, NC; ⁵8-80 Cities, Toronto, N/A, Canada

Open Streets is a mass participation initiative where streets are temporarily closed to automobile traffic, so that people may use them for walking, bicycling, dancing, playing, and socializing. Open streets are increasingly common in cities seeking innovative ways to achieve environmental, social, economic, and public health goals and are occurring around the globe. There are over 100 documented initiatives in North America alone and many more in South America.

Open streets activities, ‘ciclovías’ in Spanish speaking countries, represent a potentially important approach to fostering a culture of physical activity and a culture of healthful behaviors without the often large costs and long delays associated with changes to the built and transportation environments. Open streets represent a cross-cutting policy and intervention activity that involves changing the transportation, social, and economic environments. It is largely unknown whether these temporary changes to the environment will lead to more permanent changes such as construction of dedicated cycle lanes for routine transportation as well as leisure and weekend activities.

The objective of this symposium is to describe Open Streets as a scalable physical activity intervention that has co-benefits for health equity and environmental health. The symposium includes speakers from the US and South America as well as representatives from the academic, government, and non-profit sectors. Special emphases of the symposium will include an introduction to this large scale behavioral worldwide, the extent to which open streets policies have been evaluated, and challenges in the dissemination and implementation of open streets policies and interventions.

Symposium 47A

OPEN STREETS: INTERNATIONAL RESEARCH AND DISSEMINATION OF A MASS PHYSICAL ACTIVITY INTERVENTION

Dr. Olga Sarmiento, MD, PMH, PhD

Dr. Sarmiento will describe Open Streets/Ciclovías and give an overview of the international research.

Background: The Ciclovía-Recreativa is a free, multisectorial community-based program in which streets are closed temporarily to motorized transport and open to leisure activities. We assessed existing information about the Ciclovía as a public health strategy. **Methods:** We conducted a systematic search of peer-reviewed and other literature, which was complemented by expert interviews and consultation. **Results:** We reviewed 60 Ciclovías from 13 countries. Most programs take place in urban settings. The programs range from 18–64 events per year. The length of the streets ranges from 1–121 km (14.6 ± 22.1 ; 7), and the estimated number of participants per event ranges from 100–1,400,000 persons. Cross-sectional studies show evidence indicating that participants of the ciclovía programs are more likely to meet physical activity recommendations and the programs are cost beneficial. **Conclusions:** Ciclovías have potential for positive public health outcomes, but evidence on their effectiveness is limited. The different stages of new and established programs offer a unique opportunity for transnational studies aimed at assessing their public health impact.

Symposium 47B

OPEN STREETS: INTERNATIONAL RESEARCH AND DISSEMINATION OF A MASS PHYSICAL ACTIVITY INTERVENTION.

Dr. Michael Pratt, MD, MSPE, MPH

In much of the world health is considered a basic human right, as is the opportunity to be physically active. In Brazil and Colombia these are constitutionally specified rights. Perhaps it is not surprising that in this context physical activity (PA) promotion in Latin America often is connected with efforts to bridge gaps in equity and enhance urban quality of life. We present examples from Brazil, Colombia, and South Africa demonstrating that PA promotion and equity can be addressed jointly. PA is a good example of the value of the culture of health concept because so many sectors of society must be involved in creating the environments and policies that support active living. Reclaiming urban public space and purposing it specifically to promote PA and equity is a powerful and appealing concept. Compared to built environment changes, PA in public space can be implemented quickly at modest cost. Programs can accommodate people of all ages, interests, and abilities. This approach may be best exemplified by the ciclovía or open streets phenomenon that has spread from Colombia to more than 300 cities in the Americas. Evaluation of open streets programs is taking place to different degrees in many of these cities. However, other applications of the joint use of urban public space for addressing PA and social equity have been minimally evaluated. One of the most promising strategies is the provision of regular, free community PA classes in cities short of attractive, safe public space. Government supported programs exist in many countries and have been taken to a national scale in Colombia and Brazil. To date evaluation of these programs is limited despite their popularity and the potential to address many aspects of a culture of health. We will tap the rich vein of community experience from around the world, focus on several of the most promising examples, synthesize what evaluation has been conducted, and critically assess how the concept of PA classes and ciclovías in urban public spaces may best be applied to enhance the culture of health in the United States.

Symposium 47C

OPEN STREETS: INTERNATIONAL RESEARCH AND DISSEMINATION OF A MASS PHYSICAL ACTIVITY INTERVENTION.

Dr. J. Aaron Hipp, PhD

Open Streets is a mass participation initiative where streets are temporarily closed to automobile traffic, so that people may use them for walking, bicycling, dancing, playing, and socializing. Open streets are increasingly common in cities seeking innovative ways to achieve environmental, social, economic, and public health goals and are occurring around the globe. There are over 100 documented initiatives in North America alone and many more in South America.

Open streets activities, ‘ciclovías’ in Spanish speaking countries, represent a potentially important approach to fostering a culture of physical activity and a culture of healthful behaviors without the often large costs and long delays associated with changes to the built and transportation environments. Open streets represent a cross-cutting policy and intervention activity that involves changing the transportation, social, and economic environments. It is largely unknown whether these temporary changes to the environment will lead to more permanent changes such as construction of dedicated cycle lanes for routine transportation as well as leisure and weekend activities.

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Symposium 48

8:15 AM-9:30 AM

FRAMING AND TRAINING: KEY INFLUENCES ON PHYSICAL ACTIVITY PERCEPTION, AFFECT, AND EXPERIENCE

Angela Bryan, PhD¹, Michelle Segar, PhD, MPH², Arielle S. Gillman¹, Courtney J. Stevens, MA¹, Audie Atienza, PhD³

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Less than half of U.S. adults meet the requirements for recommended physical activity of at least 30 minutes of moderate intensity activity per day on all/most days of the week. Existing interventions to increase exercise behavior have been moderately effective at changing behavior, but much less effective at helping individuals to maintaining this change. While some have embraced the American College of Sports Medicine’s “Exercise is Medicine,” as an optimal frame and approach to promoting physical activity, our symposium presents diverse data suggesting that people’s frame for and expectations of physical activity—particularly those related to affect—are paramount to achieving long-term behavior. We present novel mixed-methods research addressing ways in which framing and training may be leveraged to enhance perceptions about the immediate affective experience of and autonomy toward physical activity. Segar will present qualitative data from a recent study on women’s perceptions of how physical activity interferes with and/or supports their experience of feeling happy and successful every day. Gilman examines whether metamotivational state, or the extent to which one has an associative or dissociative frame of reference, relates to the immediate experience of treadmill running. She finds that feeling more playful (i.e., more dissociative) is related to experienced affect and perceived exertion during the bout. Stevens will present data on whether training is an effective method of improving affective response to exercise, as well as whether those changes depend on exercise intensity. She finds that changes in affective response over the course of training do not seem to depend on exercise intensity, suggesting that affective response to exercise may be a fairly stable person-level variable. Taken together, these investigations highlight important characteristics of the experience of exercise that may influence the maintenance of exercise behavior over time. Discussion will focus on how and whether aspects of people’s immediate perceptions and experience of exercise are malleable, and thus can be used to boost long-term behavioral sustainability.

Symposium 48A

FROM DREAD TO DESIRE : REFRAMING PHYSICAL ACTIVITY TO FOSTER POSITIVE AFFECT AND FEELINGS OF SUCCESS

Michelle Segar, PhD, MPH

Much research has explored affective components of physical activity using quantitative methods, but less work has used qualitative methods to investigate affective aspects of and barriers to physical activity. Inductive qualitative methods permit an in-depth understanding of phenomena, and as such, can help physical activity promoters develop messages that resonate more deeply with people. Self-Determination Theory (SDT) suggests that behavior needs to be understood within the context of people’s lives, especially their relationships, what is most personally meaningful and leads to well-being, happiness, and effectance (e.g., feeling effective and successful). In line with SDT, this study investigated what makes women feel happy and successful, and the ways in which they perceive physical activity as supporting or undermining happiness and success. Eight focus groups were conducted with White, Black, and Hispanic/Latina women aged 22–49, stratified by amount of self-reported physical activity (29 low active, 11 high active). A thematic analysis was used to identify emergent themes. Results show that happiness and success were generally described as arising from connecting with and being of service to other people, being relaxed and free from pressures, and accomplishing goals. In contrast, discussions about physical activity indicated that participants felt pressured to be active; had narrow definitions of what counts as physical activity; expected negative affect when being active; viewed physical activity as competing with family and work; and some described positive experiential rewards associated with being active. Findings showed that, in general, participants’ definitions and perceptions of physical activity undermined feeling happy and successful. Discussion will highlight ways in which these findings may be used in new physical activity messaging and communication intervention strategies to boost positive affect and effectance related to physical activity among ethnically diverse women.

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Symposium 48B

FRAMING GOAL ORIENTATION DURING EXERCISE: INFLUENCES ON THE IMMEDIATE EXPERIENCE OF TREADMILL RUNNING

Arielle S. Gillman

Psychological response to physical activity is an important factor in predicting adherence to an exercise program. Reversal theory (Svebak & Murgatroyd, 1985) proposes that in-the-moment goal orientation, or metamotivational state, determines subjective experience of an arousal-inducing activity. The *telic state* describes when an individual interprets a behavior (e.g. an exercise session) as a means to an end, and pleasure is derived from achieving a goal (e.g., running x number of miles). Conversely, the *paratelic state* is experienced when a person is focused on the “here and now,” and pleasure is derived from the behavior itself (e.g., feeling playful while running on a scenic trail). Previous work (Thatcher et al., 2010) found that in a paratelic state, participants reported lower perceived exertion (RPE) and more dissociative attentional focus. The current work sought to extend these findings.

28 healthy, regular exercisers completed a 30-minute treadmill run at ventilatory threshold. At the beginning of the run, metamotivational state was related to attentional focus, such that feeling less goal-oriented was associated with more dissociative thoughts ($r=.67$, $p=.000$). At minute 15, participants who reported a more paratelic state reported more positive affect ($r=.37$, $p=.05$). At the end of the bout, feeling more playful was associated with more positive affect ($r=.46$, $p=.013$), more dissociative thoughts ($r=.46$, $p=.013$), and lower perceived exertion ($r=.33$, $p=.08$). Additionally, participants who felt more playful *over time* were more likely to report an increase in positive affect ($r=.693$, $p=.000$), and become more dissociative over the course of the bout, ($r=.522$, $p=.004$). These findings suggest that individuals looking to increase their enjoyment of exercise should dissociate from their goals during activity; e.g., by listening to music or running with a friend. While it is commonly espoused that one should set specific goals before an exercise session, dedicating too much mental attention to the endgoal of that exercise session might have unintended negative consequences.

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Symposium 48C

CAN WOMEN'S AFFECTIVE RESPONSES TO EXERCISE CHANGE AS A FUNCTION OF TRAINING?

Courtney J. Stevens, MA

Individuals who are more highly trained (more physically fit) respond more favorably to exercise than those who are less highly trained or inactive, and there is convincing evidence for a positive association between pleasurable affective responses to exercise and future exercise behavior. While enlightening and important, there have been no experimental studies conducted to date on whether affective responses to exercise can improve as a function of training time. The aims of the present investigation were to (1) test whether participants' average affective responses to standardized bouts of exercise improved over time as a function of training, and (2) test whether improvement (if observed) is related to the volume (intensity and duration) of exercise training completed during the training period.

This study included a sample of $N = 103$ physically inactive women randomly assigned to 1 of 4 exercise training conditions fully crossed on intensity (low vs. high) and duration (short vs. long). Exercise training occurred over a 16-week period with affect assessments collected during weeks 1, 4, 8, and 16. Affective responses to exercise were measured using the Feeling Scale (FS), which ranges from -5 (*very bad*) to +5 (*very good*). Hierarchical linear modeling (HLM) was used to test change in average FS scores across weeks within participants. Results revealed that average FS scores did not change as a function of time during the intervention:

$M_{\text{diff}} \text{ week 1 vs 4} = -.30, p = .118, M_{\text{diff}} \text{ week 1 vs 8} = -.23, p = .144, M_{\text{diff}} \text{ week 1 vs 16} = -.33, p = .376$. No strong patterns or theoretically meaningful changes across time were observed between training conditions (representing differences in training volume). Overall, our findings suggest that intra-individual affective responses to exercise may be a fixed phenomenon. Strengths and limitations of our study design as well as implications of our findings for exercise behavior promotion and training will be discussed.

Symposium 49

8:15 AM-9:30 AM

FAITH-BASED OR CULTURALLY-TAILORED COMMUNITY-BASED PROGRAMS TO IMPROVE MINORITY HEALTH

Aasim Padel, MD MSc¹, Milkie Vu, MA², Elizabeth Lynch, PhD³, Claire Townsend, Dr.P.H.⁴, Michele Heisler, MD, MPA⁵, Aasim Padel, MD MSc¹

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Healthcare stakeholders are increasingly recognizing the importance of tailoring health programs to attend to the religious and cultural values of minority communities. The methodological practices as well as the clinical efficacy, effectiveness and feasibility of such health programs are an intense investigation as tailoring activities can potentially help reduce existent health disparities and may facilitate sustainable partnerships between healthcare systems and underserved communities.

This symposium highlights the tailoring methods and outcome data from 3 health programs conducted in partnership with 3 different minority communities (American Muslims, Baptist African Americans, and Native Hawaiians). The projects conducted with American Muslims and African Americans deployed religious tailoring methods to improve cancer screening and healthy eating, while the project with Native Hawaiians entailed cultural adaptation of a weight-loss program for the work setting.

Throughout the presentations and in the subsequent discussant commentary the symposium will aim to highlight the cross-cutting nature of the projects and describe generalizable knowledge regarding community-engagement and program development. At the same time presenters will reflect on the critical questions emerging from their experiences about the theoretical bases and practice exercises of "tailoring" so as to spur further development in the field.

Symposium 49A

CAN MOSQUES BE USED TO PROMOTE WOMEN'S HEALTH? EXPLORING PERSPECTIVES OF MUSLIM WOMEN

Milkie Vu, MA

Background: Mosque communities are venues for educational, social, and civic events, and can serve as a promising setting for health interventions. Literature on faith-placed health interventions suggests that mosques and Imams can reinforce important religious tenets that may impact health-related decisions, yet there is little empirical data on such interventions. **Objective:** To assess Muslim women's opinions about effective strategies to develop a mosque-based intervention to improve women's health. **Methods:** Muslim women aged 40 and above were recruited from mosques and community organizations to participate in semi-structured interviews. The interview guide examined beliefs about the effectiveness of using Imams-led sermons as well as peer-led group sessions to improve women's health. **Results:** 19 women participated in semi-structured interviews. Participants voiced the current lack of focus on women's health in mosque activities, discussed the potential for education on women's health, and suggested several characteristics of the modality, messenger, and message that would enable the success of the intervention. For example, since gendered conversations are the norm in Muslim communities, sermons should focus on having male family members understand their responsibility for the health of female family members, as well as the general religious duties to care for the body. With respect to messenger characteristics, Imams require health education in order to be effective sermonizers, while best peer educators may be women with religious as well as health education qualifications. **Discussion:** Participants supported having Imam-led sermons and peer-led educational group sessions on women's health. In order to leverage the mosque setting to promote women's health, one must identify the current culture of health-related conversations in the mosque, and structure the modality, messenger, and message of the intervention around these existing elements and in light of religious sensibilities.

Symposium 49B

ALIVE! A COMMUNITY-RESEARCH PARTNERSHIP TO DESIGN A HEALTHY LIFESTYLE INTERVENTION WITH AFRICAN AMERICAN CHURCHES

Elizabeth Lynch, PhD

Background: Black-white disparities in cardiopulmonary diseases are partly due to a greater prevalence of poor diet among African Americans. Increased vegetable consumption results in reductions in all-cause and cardiovascular mortality. The ALIVE! Project is a faith-based intervention to increase vegetable consumption that was designed and implemented by a partnership between academic researchers and church leaders from five African American churches. **Methods:** ALIVE! was a multi-level intervention conducted over 9-months in five African American churches and consisted of three main components: a Bible Study emphasizing scriptural support for healthy living, nutrition education, and small-groups led by church facilitators to provide social support for behavior change. Church-wide strategies were also implemented, including messages from the pulpit, church-wide healthy eating events, and notices in church bulletins. Dietary consumption was measured using two 24-hour food recalls for intervention participants and a church-wide survey. **Results:** Participants ($n=206$) were mostly female (90%) with a mean age of 57.5, and were middle class with higher levels of education and income. Post-intervention outcomes will be reported. Participants increased total vegetable consumption from 3.04 servings at baseline to 4.09 servings at follow-up ($\text{diff}=1.04$ servings p). **Conclusion:** Community-research partnerships may be an effective method to combat black-white disparities in cardiopulmonary diseases by improving health behavior in African American communities.

Symposium 49C

WEIGHT LOSS MAINTENANCE IN NATIVE HAWAIIAN-SERVING ORGANIZATIONS: THE PILI @ WORK PROGRAM

Dr. Claire Townsend, Dr.P.H.

Native Hawaiians and other Pacific Islanders have the highest prevalence of overweight/obesity in Hawai'i compared to all other groups. A particular challenge in eliminating these obesity disparities is improving the maintenance of weight loss and creating cost-effective interventions. The Partnerships for Improving Lifestyle Intervention (PILI)@Work intervention is an evidence-based, culturally-adapted weight-loss and weight-loss maintenance program designed for Native Hawaiian-serving organizations. PILI@Work is a 5-year randomized control trial to compare the effectiveness of a 9-month PILI maintenance program in DVD format versus the 9-month PILI maintenance face-to-face program in maintaining weight-loss for employees post completion of a 3-month face-to-face weight-loss intervention. Participants were recruited from the employees of 15 Native Hawaiian-serving organizations (i.e., organizations with a mission to serve Native Hawaiian communities), resulting in 22 cohorts. Employees (n=166) completed the study with the majority being female, Native Hawaiians or other Pacific Islanders, and college educated. Participants were assessed at baseline, 3- and 12-months. Measures included weight, height, blood pressure, dietary fat intake, physical activity frequency, and physical functioning. Results will present initial weight loss (baseline to 3-month assessment), weight loss maintenance (3-month to 12-month assessment), and overall predictors of weight loss at 12-month assessment. Initial analysis indicates that participants experienced significant weight loss and improved physical functioning and that there was no significant difference between DVD and face-to-face groups. This suggests that a DVD format, following an initial group-based program, may be a more cost effective intervention method for encouraging weight loss maintenance in a work setting.

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Symposium 49D

RELIGIOUSLY TAILORING MESSAGES TO ENHANCE MAMMOGRAPHY INTENTION AMONG MUSLIMS- PROCESSES AND CONTENTIONS

Dr. Aasim Padela, MD MSC

Objective: To describe the process and challenges of religiously tailoring messages that address salient mammography-related beliefs of American Muslims. **Methods:** Interview data from women aged 40 and older sampled from organizations that cater to African American, Arab and S. Asian Muslims was used to map out where religious beliefs and values impact salient behavioral, normative and control beliefs regarding mammography. In concert with a multi-disciplinary and multi-sectoral advisory board, each belief was assessed with regards to the opportunity for religiously tailoring and potential messages discussed. **Results:** 50 women participated in focus group discussions and 19 in semi-structured individual interviews. The majority of salient beliefs, both barriers and facilitators, were amenable to religious tailoring. In general, and in coherence with the Theory of Planned Behavior, religion-related barrier beliefs were addressed by (i) introducing another religious belief that may have greater resonance with participants, (ii) reframing the belief such that it is consistent with the health behavior desired, and (iii) using a religious scholar to "invalidate" the belief. For example, beliefs about physical pain related to mammography (a barrier) was reframed to suggest that related to good deeds are rewarded by God. Similarly, fatalistic notions about health were addressed by discussions of the orthodox and heterodox doctrines of determinism. **Discussion:** While there is much potential to leveraging religion to promote beliefs that are health promoting and are consonant with religious theology, there also is an opportunity to co-opt religious teachings and religious authorities in the service of health and medicine. As health behavior interventions move from being faith-placed to faith-based, there is great need for conversation about theoretical bases and practical aspects of delivering messages that are embedded within a religious worldview and the ethics of doing so. theoretical bases and practical aspects of delivering messages that are embedded within a religious worldview and the ethics of doing so.

Symposium 50

8:15 AM-9:30 AM

NOVEL BEHAVIORAL AND PSYCHOLOGICAL SCREENING STRATEGIES FOR CHILDREN AND ADOLESCENTS IN MEDICAL CONTEXTS

Eleanor R. Mackey, Ph.D.¹, Steven J. Hardy, Ph.D.², Kristina K. Hardy, Ph.D.³, Maureen Monaghan, PhD¹, Leandra Godoy, PhD¹

¹Children's National Health System, Washington, DC; ²Children's National Health System Children's National Health System and George Washington University School of Medicine and Health Sciences, Washington, DC; ³The George Washington University School of Medicine/ Children's National Medical Center, Washington, DC

As compared with healthy youth, psychosocial factors and concerns may occur in higher rates among youth with chronic illness. Moreover, early screening and identification in primary care, along with novel strategies for providing links to mental health services may reduce both the incidence and impact of mental health and behavioral concerns. However, current practices in clinical settings frequently neglect to identify at-risk youth or to provide services early in order to prevent psychosocial factors from interfering in care, health outcomes, and quality of life.

In order to address this problem, psychologists and physicians working with a variety of illness populations have identified novel ways in which to identify youth at risk for psychosocial difficulties or at high risk for acquiring preventable illness by virtue of their behavior, and integrate treatment of psychological concerns as part of medical care.

The current symposium will address first via a presentation by the chair, how psychosocial factors affect youth with chronic illness or increase risk for disease, and then present a variety of approaches for early identification, referral, and treatment across various populations. Specifically, the first presentation will describe the implementation of mental health screening tools for use by physicians in specialty care clinics such as sickle cell disease and food allergy. This discussion will include both patient and physician response to the approach. The second presentation will describe screening for the presence of neurological disorders amongst high-risk youth. Finally, the third presentation will describe methods for mental health screening in primary care settings, as well as an innovative system for linking high-risk youth with mental health services. Each presentation will highlight innovative strategies for implementing these screenings that could be translated into other settings or across a variety of populations, as well as challenges and directions for future research and clinical efforts.

Symposium 50A

INTEGRATING ROUTINE MENTAL AND BEHAVIORAL HEALTH SCREENINGS IN PEDIATRIC SPECIALTY CLINICS

Dr. Steven J. Hardy, Ph.D.

Early identification of mental health (MH) concerns and referral for treatment may affect psychological and medical outcomes. We examined the acceptability and preliminary outcomes of a MH screening program in three pediatric specialty clinics (allergy, hematology, immunology) at a large academic medical center. During an initial data collection period, patients' parents (n = 57) completed interviews after medical clinic visits, providing details about any MH discussion that occurred during the visit and completing Press Ganey patient satisfaction questions. During a secondary phase, patients (ages 8-17) and parents (of children ages 5-17) completed the PROMIS Pediatric Profile, which assesses six domains (fatigue, anxiety, depression, pain interference, mobility, and peer relationships), via iPad in the clinic waiting room. Raw scores were entered into an electronic form, which calculated T-scores and generated tailored MH recommendations for physicians to review before seeing each patient. Parents (n = 79) completed the same post-visit interviews. In the full sample, most patients were African-American (55%), followed by Caucasian (23%) and African (10%). Parents reported an increase in the frequency of MH-related discussion (54% pre, 60% post) and referral (5% pre, 10% post) after MH screening implementation. Almost all parents (99%) liked that their physician discussed MH. Patient satisfaction ratings also improved: parents were more likely to rate as "very good" physicians' efforts to include them in decisions about treatment (79% pre, 89% post), the amount of time the physician spent with them (70% pre, 79% post), and their confidence in the physician (84% pre, 92% post). Most parents liked completing the MH screener prior to the visit (97%) by iPad (96%), and thought the length (95%) and content (90%) of the screener were acceptable. Preliminary acceptability was demonstrated. Initial outcomes regarding improved identification of MH concerns and provision of referrals are promising. Additional discussion is needed regarding the long-term feasibility and effectiveness of the implementation of this MH screening program.

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Symposium 50B

THE USE OF BRIEF BATTERIES FOR CHILDREN WITH MEDICAL ILLNESS TO TRACK CHANGES IN NEUROPSYCHOLOGICAL FUNCTIONING OVER TIME

Dr. Kristina K. Hardy, PhD

Background: Despite decades of research, we do not fully understand the nature of neuropsychological deficits associated with many medical conditions, their relation to disease or treatment variables, when they develop, and how they evolve over time. This has limited our ability to develop appropriate treatments to prevent or mitigate cognitive difficulties in these vulnerable populations. Innovative methods of monitoring neuropsychological functioning over time are critically needed in order to improve psychosocial outcomes. **Methods/Results:** Based on public health and clinical-decision making approaches to care, we developed a model of neuropsychological evaluation that provides a risk-adapted level of assessment to individuals with medical conditions known to impact the central nervous system. We will illustrate how this model can be used in different populations, presenting two studies in children with cancer and neurofibromatosis type 1 (NF1). Both studies have used a brief standardized computerized battery that assesses vulnerable processes such as reaction time, attention, working memory, and executive functioning. Study 1 uses repeated cognitive monitoring to characterize the evolution of neuropsychological difficulties in a multi-site sample of children ($n=265$) receiving treatment for high-risk acute lymphoblastic leukemia. Study 2 evaluates changes in neuropsychological functioning associated with a novel, pharmacological treatment for children with NF1. Together, these studies illustrate how brief cognitive batteries may be used to validly and reliably track changes in functioning over time, in intervals that are much shorter than is typical for traditional neuropsychological batteries. **Conclusions:** Clinically, this approach has the potential to identify children with emergent problems *before* significant functional impairments develop using safe, tolerable, cost-effective, and low-burden methods. From a research perspective, this strategy has resulted in strong accrual, and the ability to recruit a large, diverse sample with the same outcome measures.

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Symposium 50C

MENTAL HEALTH INTEGRATION IN PEDIATRIC PRIMARY CARE: PROMOTING STATE-WIDE UNIVERSAL SCREENING AND CONSULTATIVE SUPPORT

Leandra Godoy, PhD

Pediatric primary care providers (PCPs) are called upon to identify and address mental health (MH) problems using routine screening, referrals, and (co-)management of issues. Yet implementation is hard and PCPs report a lack of MH training and support. Strategies to support MH screening in primary care, such as quality improvement (QI) and child MH access programs, are promising, but research is limited.

Objectives were to 1) Examine changes in MH screening practices and beliefs following a QI learning collaborative for PCPs; 2) Describe the development and implementation of a child mental health access program aimed at supporting PCPs in implementing screening and addressing child MH issues.

MH screening data came from 15 practices enrolled in a web-enabled QI learning collaborative aimed at improving screening practices during annual well visits for children 1 to 18 years. Program elements included monthly MH webinars, team leader calls, and practice team meetings, plan-do-study-act cycles, and ongoing technical assistance from QI and MH coaches. Data collected included the AAP Mental Health Practice Readiness Inventory and chart audits. Child mental health access program data comes from DC MAP, a new initiative (launched 2015) in DC that provides consultative support (primarily via phone) to PCPs from a team of mental health professionals.

Practices participating in the QI Learning Collaborative reported greater readiness to address MH issues. Chart reviews showed an increase in overall screening rates from baseline (11%) to project end (86%). Of screens completed, results showed improvements in using an approved screening tool (1% to 85%), scoring and documenting results (26% to 85%), and billing (26% to 82%). Preliminary data on DC MAP indicates that PCPs are satisfied with the program and are using it to discuss children (0-21 years, 74% insured through Medicaid) presenting with a variety of MH issues. PCPs are inquiring about assessment, resources, and medication.

Findings highlight the benefits of providing ongoing, extensive support to practices around screening implementation and management of MH issues within primary care.

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Symposium 51

8:15 AM-9:30 AM

STRESS, COPING, AND SOCIAL RELATIONSHIPS AMONG INDIVIDUALS AFFECTED BY RARE DISEASES

Marci Lobel, Ph.D.¹, Laura Koehly, Ph.D.², Amy Frohnmayer, M.A.³, Jennifer Nicoloso SantaBarbara, MA¹, Tracey A. Revenson, PhD⁴

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Distress is common among individuals affected by a chronic disease as they attempt to manage their diagnosis and medical care, physical symptoms, and interference with their social relationships, work, and daily living. For those with a chronic disease that is rare, these stressors are likely to be heightened by the limited existence of information about the natural history, prognosis, and prevalence of their disorder, and often by a lack of well-tested treatments. Additionally, for diseases that are heritable, the possibility of genetic transmission can complicate relationships between family members who are at risk and those already diagnosed. The complex psychosocial challenges faced by individuals affected by rare diseases have been largely neglected by researchers. This symposium will fill a critical gap in our understanding of stress, coping, and social relationships among individuals affected by rare diseases. The first presentation about families affected by Lynch Syndrome, a rare, inherited cancer susceptibility syndrome, will illustrate that relationships with family members can be both a source of support but also fraught with conflict. Such relationships also affect willingness to undergo genetic testing to identify risk. The second and third presentations will report on distress and ways of coping that are common among individuals with Fanconi anemia and Mast Cell Disorders, respectively, and how coping is associated with well-being, disease-specific distress, and depression in these rare diseases. The Discussant, Dr. FIRSTNAME LASTNAME, a well-respected expert in stress and coping associated with chronic disease, will highlight some common themes across the three presentations. This symposium will document some of the unique challenges for individuals affected by rare diseases, including uncertainty about their disease course and treatment and interpersonal conflict; demonstrate the value of adaptive coping and social support in enhancing adjustment; and underscore the need for empirically-supported interventions to improve well-being in individuals with a rare disease and their family members.

Symposium 51A

THE IMPACT OF GENETIC SERVICES ON INTERPERSONAL PROCESSES IN FAMILIES AT RISK OF LYNCH SYNDROME

Dr. Laura Koehly, Ph.D.

Genetic services offer an opportunity to identify the mutation status of those at risk of Lynch Syndrome (LS), a dominantly inherited cancer susceptibility syndrome. Family members faced with this information must cope with their individual and shared cancer risk. The social environment that surrounds at-risk families can be a source of stress through interpersonal conflict, and can provide coping resources through social support - both of which are important predictors of psychological well-being and health. While a small body of research has examined such factors among LS family members receiving genetic services, there is limited information about interpersonal processes for those who decline genetic services. Using social network methods, we examine the structural characteristics of support and conflict networks in families affected by LS. Approximately three years following identification of the family mutation, 157 individuals from 34 families enumerated social network members and indicated who provided social support and with whom they experienced conflict. Individuals who received genetic services reported more emotional support from and less conflict with network members than those who declined. Consideration of family network structure in a subset of families showed decreased likelihood of emotional support provision from those who received genetic services to those who declined genetic services. Further, there was an increased likelihood of emotional support exchange among those who shared support partners, suggesting ongoing communal coping in response to genetic testing and cancer risk. The diminished emotional support and elevated conflict experienced by individuals who declined genetic services may help explain their reluctance to receive such services, and undermine their willingness to pursue testing. Communal coping may bond family members who receive genetic testing and marginalize family members who decline testing.

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Symposium 51B

THE EMERGING ADULT POPULATION WITH FANCONI ANEMIA: CHALLENGES, COPING, AND QUALITY OF LIFE

Amy Frohnmayr, M.A.

Recent improvements in medical technology have allowed patients with severe chronic illnesses to live longer lives. Individuals with Fanconi anemia (FA), a rare genetic disease that leads to bone marrow failure and greatly increased susceptibility to malignancies, represent an understudied population. This study investigated psychosocial challenges faced by the emerging adult population with FA, coping strategies, and the correlation between coping behaviors and quality of life. This mixed methods study utilized data from semi-structured interviews with 18 adults with FA and questionnaires administered to 192 adults registered with the Fanconi Anemia Research Fund. Standardized survey instruments included the WHO-5 Well-being Measure, Brief COPE, the Herth Hope Index, and the Future Time Perspective Scale. Qualitative data analysis was facilitated by HyperResearch™ software, and analysis of survey data was conducted using SPSS™ software. Interviewees ranged in age from 18–55. Psychosocial challenges fell into four broad domains: *Physical, Medical, Cognitive Perceptual and Social*. Coping strategies described by participants comprised the following themes: *Positive Reframing of Having FA, Use of Internal Resources, Use of External Support, Connecting with the FA Community, Active Medical Management, and Lifestyle Management*. Surveys were completed by 96 adults aged 18 to 55. The most frequently utilized coping strategies were acceptance and active coping. The least utilized coping strategies were substance abuse and denial. Active coping, positive reframing, and religion were correlated positively with hope (p 's < .05) and religion was correlated positively with well-being ($r=.324$; $p < .05$). Substance use, venting, behavioral disengagement, self-blame, self-distraction and denial were correlated negatively with well-being (p 's < .05). This is the first study to examine coping strategies and quality of life in adults with FA. Findings support the need for increased awareness among providers and future investigation into potential interventions to enhance well-being in this population.

Symposium 51C

QUALITY OF LIFE, COPING, AND DEPRESSION IN INDIVIDUALS WITH MAST CELL DISORDERS

Jennifer Nicolero SantaBarbara, MA

Mast Cell Disorders are rare, chronic diseases involving unpredictable symptoms ranging in severity, duration, and frequency. There has been little systematic research on psychosocial factors associated with these disorders and there is a lack of psychometrically sound measures tailored to this population to enable such research. We have developed and piloted appropriate measures of quality of life, resilience, social support and disease-related distress in this population. In the present study, these measures were used in conjunction with well-validated measures of coping (Ways of Coping) and depression (CES-D) to examine prevalence of depression, its associations with other study variables, and potential gender differences among 180 individuals with a Mast Cell Disorder. Almost two-thirds (64%) experienced clinically meaningful depression symptoms, a rate higher than that reported for individuals with comparable chronic diseases. Participants also reported high levels of support, quality of life, resilience, and disease-related distress on average. Coping by seeking support, problem-solving, positive reappraisal, and self-control were most common; distancing, escape/avoidance, confrontation, and accepting responsibility were less commonly reported ways of coping. Depressed mood was associated with greater somatic symptomatology, poorer quality of life, lower resilience, and indirectly with several ways of coping including escape/avoidance, accepting responsibility, self-control, and confrontation (all p 's < .05). Additionally, social support was inversely correlated with depression. The measures developed for this population performed well psychometrically. There was no gender difference in depression but women reported greater use of several ways of coping, greater disease-related distress, poorer quality of life, and more physical symptoms than men. This presentation will elucidate the psychosocial condition of individuals with a Mast Cell Disorder and provide a framework for further research and intervention to improve quality of life among affected individuals.

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Friday
April 01, 2016
11:00 AM-12:00 PM

Panel Discussion 11

11:00 AM-12:00 PM

SINK OR SWIM! EXPERIENCES FROM EARLY CAREER PROFESSIONALS

Deirdre Dlugonski, PhD¹, Siobhan M. Phillips, PhD, MPH², Emily L. Mailey, PhD³, David B. Portnoy, PhD, MPH⁴, Matthew Banegas, PhD, MPH, MS⁵

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The transition from graduate student to early career professional can present many opportunities and challenges. Regardless of the quality of one's training experiences, there is often a significant amount of learning that occurs in the early years of a new position. The panel will focus on topics related to early career transitions of interest to graduate students and other early career professionals within and outside the academy. The panelists represent a variety of training experiences that include: transitioning from graduate school to an assistant professor position with and without post-doctoral training, adjusting to an assistant professor position within a medical school and at a research-intensive institution, conducting research in several areas of behavioral medicine, and establishing a career outside of a traditional academic setting. Each member of the panel will provide a brief overview of their training, career path, and share a few lessons learned from these experiences. Potential topics might include: identifying a new network of collaborators, managing start-up funds, work-life balance, maintaining a relationship with a former mentor, establishing relationships with new mentors, managing students and staff, and grant writing. Presentations from the panel will be followed by a question and answer session with the audience. The moderator will facilitate discussion and questions from the audience.

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Panel Discussion 12

11:00 AM-12:00 PM

MENTORING AT A DISTANCE

Xiaomeng (Mona). Xu, PhD¹, Alexandra DeSorbo-Quinn, MPH², Margaret Schneider, PhD³, Abby King, PhD⁴, John Allegrante, PhD⁵, Claudio Nigg, PhD, FSBM⁶

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High quality mentoring relationships are extremely important for early career scientists who are trying to establish themselves within their fields, and continue to be important for productivity even after the early-career stage. Successful mentoring accomplishes many goals including helping the protege to create a programmatic line of research, conduct quality studies, present and publish data, network, and seek funding. High quality mentor-protege relationships also offer many benefits to the mentor including expanding research topics, giving back to the research community, and productive collaborations. However, proteges may be limited in their on-site mentor options and/or may move away from their mentor as they progress through their career. Thus it is important to understand how mentoring relationships can be successful when they occur at a distance. Mentoring at a distance can pose challenges such as getting caught up in day-to-day operations, perceptions of lower priority, scheduling, and lack of opportunity for informal interactions. Successful mentoring is conceptualized as productive, mutually beneficial, respectful, and enjoyable. Determinants of successful mentoring at a distance include clear expectations, regular contact, specific tasks, and face-to-face meetings for larger efforts (if possible). This panel consists of 3 successful mentor-protege at a distance pairs (1 pair each of mentor-doctoral student, mentor-early career/junior faculty, and mentor-established scientist). We present a successful model of a distance mentoring relationship, offer strategies and suggestions from both mentors and proteges, share our experiences, discuss the unique challenges and benefits of having a distance mentoring relationship, and provide time for questions and answers from the audience.

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Panel Discussion 13

11:00 AM-12:00 PM

USING MHEALTH TO ADDRESS HEALTH BEHAVIORS IN HIGH RISK POPULATIONS: CHALLENGES AND OPPORTUNITIES TO ADVANCE A RESEARCH AGENDA

Kelly Aschbrenner, PhD¹, Bonnie Spring, PhD², John A. Naslund, MPH³, Mary F. Brunette, MD⁴, Elizabeth Carpenter-Song, PhD⁵, Joelle C. Ferron, PhD, MSW⁶

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This panel discussion will focus on using mobile health technologies (mHealth) to address cardiovascular risk due to modifiable health behaviors of obesity and smoking in high risk and underserved populations. Smartphone apps, activity trackers, and other new technological devices hold great promise for tackling public health issues like obesity and smoking, particularly for hard to reach high risk and underserved populations in which access to intensive in person treatment may be limited. The panelists will review the challenges and opportunities in this area, present cutting edge research on the feasibility, acceptability, and potential effectiveness of using mHealth interventions to address health behaviors in a high risk population, and stimulate discussion on a future research agenda.

A team of multidisciplinary researchers from the Center for Technology and Behavioral Health at the Dartmouth Psychiatric Research Center and the CDC-funded Health Promotion Research Center at Dartmouth will present their preliminary research using social media and smartphone applications to augment and deliver behavioral interventions addressing cardiovascular risk due to obesity and smoking among individuals with mental illness. The clinical implications and ethical challenges of mHealth research in this high risk group will be discussed. Studying the feasibility, acceptability, and desirability of using mHealth technology to help individuals with SMI who experience debilitating psychiatric symptoms combined with alarmingly high rates of obesity and smoking has important implications for other high-risk groups. Dr. Bonnie Spring, Director of the Center for Behavior and Health at Northwestern University and Panel Chair will draw parallels and summarize lessons learned from mHealth research with individuals with SMI that can be applied to other high risk populations. The panel will close with a discussion of the potential for a future research agenda prioritizing studies on the use of mHealth technologies to address cardiovascular risk in high risk groups.

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Panel Discussion 14

11:00 AM-12:00 PM

INFORMATION TECHNOLOGY AMONG BABY BOOMERS – HOW SOCIAL MEDIA SITES ARE SHAPING HEALTH COMMUNICATION AMONG OLDER AMERICANS

Crystal Y. Lumpkins, PhD¹, Hyunijini Seo, PhD², Muger V. Geana, MD, PhD², Natbhona Mabachi, Allen Greiner, Jesse Salinas, Eva Laverne Manos, DNP - Leadership/Informatics³

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The popularity and usage of social media network sites among American Internet users age 50 and over doubled between 2009 and 2011 and has steadily climbed. This increase may be due to the likelihood that many older adults are living with a chronic disease and are more likely to reach out for support online. Social media networking use among adults 65 and older grew 150% from 13% in 2009 to 33% in 2011. Currently, 50% of adults ages 50-64 and 34% of adults ages 65 and older use social networking sites (Pew Internet). Given the rise of social media network usage among this population, health communication researchers and health communication practitioners have a unique opportunity to impact health information seeking and sharing and health behavior and health outcome. Through this technology, social interaction, information exchange, and social support may be enriched through a trusted on-line environment (Tennant, Stellefson, Chaney & Dodd, 2013; Hesse et al., 2005). This exchange provides a platform for older Americans to engage with others via a virtual space to enhance social contact, overcome loneliness and receive pertinent information (Leist, 2013). The panel proposes to explain and explore the implications of social media and social networks on health information, health behavior and health outcome among American adults 50 and older. Information technology provides diverse platforms that may serve as critical venues for health communication researchers and practitioners to impact wellness among older Americans.

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Panel Discussion 15

11:00 AM-12:00 PM

USING SOCIAL MEDIA FOR OBESITY TREATMENT AND PREVENTION PROGRAMS: STRATEGIES AND LESSONS LEARNED

Melissa Napolitano, PhD¹, Brie Turner-McGrievy, PhD, MS, RD², Jessica Whiteley, PhD³

¹The George Washington University, Washington, DC; ²University of South Carolina, Columbia, SC; ³UMass Boston, Boston, MA

Social media among all age groups is growing in popularity and has the potential to reach a wide range of individuals with scalable obesity treatment and prevention programs. This panel discussion will highlight the similarities as well as unique benefits and challenges of using social media for recruitment and intervention delivery.

Speaker 1 will discuss use of social media for: 1) social support during weight loss interventions among adults, 2) a health communication intervention to promote healthy weight among college students, 3) online challenges to promote increased physical activity, and 4) tracking discussions around weight loss. Ways to enhance user engagement with social media (i.e., varying message types, interaction with participant or weight loss counselor posts, and using hashtags to engage users) will be discussed.

Speaker 2 will discuss her work in an obesity prevention program targeting health disparities among adolescent girls. Parents were surveyed and reported that the time and difficulty in transporting their girls to a program in an urban setting was a significant barrier to study participation. As a result, the study was transformed from an in-person to an online social media program and successfully recruited 51 dyads into the RCT in less than 10 months. Using social media for recruitment and intervention, and cautions about the use of social media in vulnerable populations will be discussed.

Finally, Speaker 3 will discuss the use of social media for two trials focused on weight management among young adults. High Facebook penetration rates (as high as 99.5% on some college campuses) and text message use (>97%), prompted Facebook for intervention content delivery and texting for monitoring and reporting. Additional information will be discussed regarding recruitment and retention for the first pilot study of 57 college students as well as timing, frequency, and length of contact integrated into a larger follow-up study which is ongoing.

Further lessons learned and the challenges and benefits of using these social media outlets for increasing access to evidence-based obesity treatment and prevention programs across the lifespan will be discussed.

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Panel Discussion 16

11:00 AM-12:00 PM

COLLABORATIVE BENCH-TO-BEDSIDE FELLOWSHIPS: BUILDING THE NEXT GENERATION OF HEALTH BEHAVIOR SCIENTISTS

Gwenyth R. Wallen, PhD¹, Alyssa T. Brooks, PhD¹, Vijay Ramchandani, PhD², Nancy Diazgranados, MD³, Laura E. Kwako, PhD², David Goldman, MD²

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This panel will facilitate discussion on mentoring the next generation of health behavior scientists pursuing clinical research as a lifelong career goal, with a special emphasis on post-doctoral fellows. The presentations will discuss the importance of training fellows along a continuum of translational science to address key issues in health research and encourage transdisciplinary collaboration to optimize health and healing for individuals, families, and communities, with a long-term goal of cultivating a generation of innovative and creative leaders in the scientific community. The process of setting up a truly interdisciplinary fellowship experience spearheaded by excellent mentors, marked by increasing responsibility and independence, and shaped by frequent interdisciplinary collaboration will be discussed. While post-doctoral fellowships offer a unique period of “protected” time for establishing oneself as a young investigator, we argue that it should also be considered a time of “joyous risk-taking,” during which opportunities should be explored and collaborations formed and strengthened. With perspectives from both mentors and mentees, the importance of an environment that fosters leadership, innovation, and collaboration will be emphasized, as well as the concept of a “circle of mentors” approach to facilitate personal and professional growth. The goal of this panel centers on starting an open and honest dialogue for those in all phases of clinical research careers, with a focus on the power and importance on team science in advancing health.

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Panel Discussion 17

11:00 AM-12:00 PM

IMPLEMENTATION OF HEALTH INFORMATION TECHNOLOGY WITHIN BEHAVIORAL HEALTH SETTINGS: CHALLENGES AND LESSONS LEARNED

Kimberly Center, M.A.¹, Andrew Sarkin, Ph.D.¹, Kyle Choi, M.P.H.¹, Marissa Goode, M.S.¹, Danielle Casteel, M.A.¹, Todd Gilmer, Ph.D.²

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Among individuals with behavioral health disorders, there are higher rates of physical health conditions including cardiovascular disease, diabetes, and respiratory disease. Integration of care enabled by health information technology (HIT) systems has great potential to improve health outcomes for individuals with behavioral health conditions. However, behavioral health providers generally lag behind hospitals and primary care settings in adoption of HIT (NASMHPD, 2014). This panel session will discuss the development and implementation of the Health Outcomes Management System (HOMS) for Los Angeles Department of Mental Health Innovation Programs and California's Mental Health Services Oversight and Accountability Commission (MHSOAC). HOMS is a secure web-based data collection system designed to ensure proper tracking and monitoring, improve integration of services and ultimately, the quality of care. Specifically, the discussion will include common challenges that can impact adoption of HIT by behavioral health providers, including perception of clinical utility, selection of appropriate measures and outcomes, training needs and use with underserved and underrepresented ethnic populations.

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Panel Discussion 18

11:00 AM-12:00 PM

USE AND ABUSE OF TECHNOLOGY: EHEALTH FACTORS THAT ENGAGE OR ALIENATE PATIENTS AND PROVIDERS

Karl E. Minges, MPH¹, Carly Michelle. Goldstein, Ph.D.², Amy Huebschmann, MD, MS³, Chandra Y. Osborn, PhD, MPH⁴, Mark Heyman, Ph.D.⁵, Robin Whittemore, PhD, APRN, FAAN⁶

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This panel discussion focuses on providing advice and perspective to clinicians, researchers and policymakers regarding the use and abuse of technology in behavioral medicine. Organized in a debate format, the co-presenters will present his or her perspective on factors that contribute to the use or misuse of technology in the clinical and research setting, including apps, electronic medical records, mobile devices, and patient portals. Although the discussion will be broad, insights regarding the benefits and challenges of using technology-driven diabetes and cardiovascular care will be presented. Audience participation will be sought, including dialogue of “lessons learned” and sharing of key strategies that have facilitated engagement or alienation in the use of various types of technology for patients and providers.

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Panel Discussion 19

11:00 AM-12:00 PM

RE-INTEGRATING BRAIN, MIND, AND BODY TO TREAT PATIENTS WITH SYMPTOMS THAT ARE CLINICALLY NOT CONSISTENT WITH MEDICAL DIAGNOSIS

Elissa H. Patterson, PhD¹, Seime J. Richard, PhD, ABPP, LP², Schubiner Howard, MD, board-certified in pediatrics, adolescent medicine, and internal medicine³

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There is a subset of patients who present for medical visits with symptoms that are clinically not consistent with a medical diagnosis. For example, patients with non-epileptic seizures, stuttering, psychogenic paralysis/weakness, conditioned responses to medical treatments (such as psychogenic nausea elicited by pills), nausea/vomiting, chronic dizziness, headaches, fibromyalgia, chronic fatigue, insomnia, chronic pain, and pruritus may not have an organic neurological, gastrointestinal, dermatologic, or musculoskeletal diagnosis that accounts for the persistence and severity of their functional impairment. These disorders are often treated primarily as medical disorders, despite the absence of detectable structural or pathological physical abnormalities. Many such patients present repeatedly for medical care with the hope of identifying the underlying biomedical “cause” of their symptoms, but feel chronically frustrated and marginalized by the lack of a clear medical diagnosis or treatment plan. Moreover, medical staff may feel stymied by these patients’ number and severity of disorders, and the lack of corresponding clinical guidelines. As a result, treating these patients causes a disproportionately large workload and economic strain on healthcare systems. These patients are at risk of becoming stigmatized as “difficult”, “hypochochriacal”, or viewed as primarily having an untreatable psychiatric disorder. Panelist 1 will talk about the evidence-based interventions that a health psychologist can offer to support collaborative treatment of these patients as speaker 1 has done for many years through interprofessional clinical collaboration in Behavioral Medicine at a large tertiary care center. Panelist 2, a physician, will talk about his practice identifying and treating patients with medically unexplained symptoms using a mind-body approach that starts with making an unambiguous psychophysiological diagnosis and de-stigmatizing these disorders. Finally, all three panelists will jointly discuss the practical logistics of using these integrative mind-body approaches to avoid iatrogenic complications from costly and unnecessary surgical and pharmacological interventions.

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Panel Discussion 20

11:00 AM-12:00 PM

NAVIGATING BURDENS: UNDERSTANDING THE CONNECTION BETWEEN CULTURE, BURDEN, AND HEALTH DECISIONS IN THE LATINO POPULATION

Lucía I. Florindez, MA, Daniella Florindez, MPH

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Factors such as low income, lack of education, and minority status have consistently been associated with poor health (Braveman et al., 2011). Currently, about 50 million Latinos live in the United States (US Census 2010), and many in this subgroup of the population are disadvantaged in all of the aforementioned areas. Despite the disproportionate distribution of disease and disparities, Latinos often report high levels of ethnic identity and social support provided by family cohesion, a concept known as *familismo*. These ties serve as protective factors to their mental health, and help to preserve and propagate cultural identity. However, these holistic concepts of health and strong social support networks can also contribute to stress related health issues for Latino patients. Because family well-being is dependent on the status of the group as well as the individual health of its members, Latino individuals can feel a double burden for both themselves and a collective responsibility for their social unit. This friction between health as a personal responsibility and the social connectivity of the Latino family units creates situations where Latino patients are unduly burdened and must make difficult medical decisions that lay between their individual health and the health of their family.

This panel will examine how Latino patients make everyday health related decisions given the burdens they face. Using concrete examples from two research programs conducted among underserved Latino populations, we will explore how a singular decision often involves the family, and that this structure influences choices, reactions, and overall perceptions about health for each family member. Findings from a study of patients living with spinal cord injury will describe challenges Latino patients faced when seeking medical care that may conflict with their family structures and social cohesion. Case examples will also come from research conducted with overburdened Latina women who sought acupuncture as an alternative to western medicine as a means to treat and cope with daily stress. In presenting examples from these study samples, we aim to facilitate a discussion regarding the relationship of burden, culture, and stress to health decision-making in the Latino population.

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Friday
April 01, 2016
12:30 AM-1:30 PM

Paper Session 26

12:30 PM-12:45 PM

USE OF TWITTER TO ASSESS SENTIMENT TOWARD WATERPIPE TOBACCO SMOKING

Jason B. Colditz, M.Ed.¹, Maharsi Naidu¹, Noah A. Smith, PhD², Joel Welling, PhD³, Brian A. Primack, MD, PhD¹

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Background: Data from Twitter have been used to track health conditions such as influenza and foodborne illness. Advances in machine learning now allow researchers to utilize Twitter data to investigate novel behavioral health trends such as waterpipe tobacco smoking (WTS), which has important health risks and is gaining popularity worldwide. **Methods:** Using 5 popular variations on the keyword “hookah,” we retrieved a live feed of all matching Twitter messages (“tweets”) over a complete weekend in November 2014. This resulted in 43,155 English-language tweets. A random subset of 2,000 of these tweets was independently double-coded for WTS relevance and sentiment. We utilized a Naïve Bayes classification algorithm to detect language predictive of WTS sentiment in 75% of the relevant coded data, and we tested the classification algorithm against the remaining 25%. We also examined sentiment differences across Western vs. Eastern hemispheres using timecode metadata. **Results:** Initial inter-rater agreement was strong for both positive and negative sentiment (Cohen’s $\kappa = 0.74$ and 0.71 , respectively), and all differences were easily adjudicated. Based on the human-coded data, our classification algorithm detected both positive and negative sentiment with over 70% accuracy. Several interesting elements of the classification algorithm emerged. For example, presence of a “heart” emoji (text-based image) predicted positive sentiment toward WTS at a 14:1 ratio, while presence of the word “cigarettes” predicted negative sentiment at a 23:1 ratio. Western hemisphere tweets were more likely to be positive as compared to Eastern hemisphere tweets (56% vs. 32%, $p < .001$). **Conclusions:** Twitter appears to be a valuable source of data related to WTS. We were able to train a supervised classification algorithm to detect sentiment with relatively little human coding. Examination of user metadata allowed us to detect broad geographic differences related to WTS sentiment. The processes developed through this study may be valuable for tracking sentiment over time and monitoring novel behavioral health trends across geographic regions.

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Paper Session 26

12:45 PM-1:00 PM

A TALE OF TWO TOOLS: RELIABILITY AND FEASIBILITY OF EXAMINING TWITTER “MENTIONS” ABOUT E-CIGARETTES FROM TWO SOCIAL MEDIA TOOLS

Amelia Burke-Garcia, MA¹, Cassandra A. Stanton, PhD²

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Background: With more than 70% of Americans seeking health information online, social media are becoming main sources of health information and related discussions. 43% of social users interact on social media for a direct response to a problem. However, it is difficult to capture and analyze these data in aggregate. There are numerous free and paid tools available and each uses different sources and processes, which make data validation challenging. Given the rapid rise of e-cigarette use in the US, this study seeks to understand the reliability and ease of use of two tools analyzing e-cigarette tweets. **Methods:** This study examines Twitter mentions pulled from two different industry standard tools (GNIP and Radian6) using the key words, “e-cigarettes OR vaping” OR “e-cigarettes health” OR “vaping health”. 500 mentions were collected from each tool over a 30 second period of time (12:57pm EST on August 7, 2015) for a total of 1000 mentions. Seven measures were used in this analysis – tools were compared on Cost, Feasibility, and Ease of Use; mentions were compared on Relevance to topic of e-cigarettes, Poster (individual/organization), Context (tweet content analysis), and Valence (positive/negative). **Results:** Within 30 seconds, 1000 tweets about e-cigarettes were captured by both of the tools. GNIP offered more flexible pricing than Radian6, however Radian6 offered higher ease of use and feasibility. Preliminary findings indicate that of the 1000 tweets, ~40% of the content was the same across both sets of data, less than 10% were not on topic (Relevance), more than 30% of tweets were from organizations and more than half were from individual users (Poster); approximately a quarter of these were sales-oriented (Context); and the majority of the tweets referred to e-cigarettes and vaping positively. **Conclusions:** While tweets related to e-cigarettes were captured by both tools, less than half of the content was consistent across tools. Each tool had advantages in analyzing social media conversations, however future work is needed to understand data validity.

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Paper Session 26

1:00 PM-1:15 PM

SHARE2QUIT: A FACEBOOK PEER INNOVATION

Rajani Sadasivam, PhD¹, Sarah L. Cutrona, MD, MPH², Tana Luger, PhD, MPH³, Sowmya R. Rao, PhD⁴, Jeroan Allison, M.D., M.S.², Thomas Houston, MD, MPH²

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Background: Smoking is the number one preventable cause of death. Although effective public health aids exist, they are underused and new methods to increase use of effective online aids such as web-assisted tobacco interventions are needed. The increasing use of online social networks (eg: Facebook) provides one such recruitment opportunity. Outside health, companies are successfully using peer recruitment to attract new customers, but these methods have not been developed in health. **Methods:** Our study was conducted between July 2013 and September 2014. In Share2Quit, we developed and evaluated a Facebook peer recruitment app. Smokers directly recruited on Facebook (Direct Recruits) and subsequent waves of recruited smokers were provided the app for 30 days to peer recruit other smokers in their network to a web-assisted tobacco intervention. Per best practices of respondent-driven sampling (RDS), a modified peer recruitment method that assists in the realistic spread of recruitment, we enforced a limited quota of 7 smokers per recruit and provided incentives for recruitment. Each smoker was able to recruit for 30 days. We assessed recruitment success and predictors of recruitment. At follow-up, we also assessed the potential of peer recruitment to motivate cessation. **Results:** Recruitment of 190 direct recruits resulted in 569 peer recruits (total n=759). Twelve percent (n=91) of smokers successfully peer recruited (Direct recruits: 24.7%; Peer recruits: 7.7%). Successful recruiters were between ages 35-44 (39.6%), and smoked fewer cigarettes ($p < 0.01$ for both comparisons). The majority of smokers strongly agreed or agreed that peer recruitment was beneficial to their own quit smoking efforts (75.4%), motivated them to get support from those around them to quit smoking (64.4%), and did not increase their cravings (83.1%). **Conclusion:** Smokers were willing to recruit others. Additional research is needed to test the potential of peer recruitment to motivate smokers to quit.

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CITATION AWARD WINNER

Paper Session 26

1:15 PM-1:30 PM

SOCIAL MEDIA OUTREACH FOR SMOKING CESSATION

Brian Keefe, MA¹, Kasia Galica¹, Emily Grenen, N/A¹, Kisha I. Coa, PhD, MPH¹, Jessica Havlak¹, Erik Augustson, PhD, MPH²

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Unlike domains such as TV or print, social media serves as a platform for interaction between individuals. To this end, spaces like Facebook or Twitter offer unique ways to deliver behavioral change interventions. These platforms are not limited by the bounds that a website often is; interactions between the expert and the user can be personalized and direct. The smoking cessation experts managing the National Cancer Institute's Smokefree.gov Twitter platform capitalize on the interactive features of social media by conducting regular active outreach. Using technology that filters user conversations that mention specified keywords (such as, "quit smoking" or "stop smoking") the Smokefree.gov team sends direct messages to users who express an interest in quitting smoking. The team offers these users personalized advice and information, and directs them to online Smokefree.gov resources. To determine the efficacy of targeted outreach to Twitter users, we measured impression and engagement rates among both standard broadcast posts (tweets) and direct messages during one of the Smokefree team's outreach campaigns. While broadcast posts had a higher impression rate, the engagement rate (the percentage of the audience that interacts with social media posts) was 1.11% for scheduled broadcast tweets and was 5.28% for outreach tweets. In general, tracked Smokefree.gov website links reveal a similar pattern; while users receiving links via a direct message are almost as likely to navigate to more pages during a given session as users viewing a standard post (2.77 pages per session versus 2.72 pages per session), those who click-thru a direct message link are spending a significantly longer time on the website than the average Smokefree.gov user (2:51 minute long session duration versus 2:00 minute long session duration), and tend to have a lower bounce rate from the site (46.38% bounce rate versus a 50.66% bounce rate). This may point to the fact that recipients of direct outreach messaging have a greater motivation to receive support through the digital space. Moreover, our work exemplifies the nature of social media metrics; it highlights that the efficacy of social media platforms may hinge upon not only the breadth of reach (as traditional media channels do), but also on the quality of the interactions.

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Paper Session 27

12:30 PM-12:45 PM

WEIGHT MANAGEMENT BEHAVIORS AMONG MEXICAN AMERICAN YOUTH: VARIATION BY GROWTH AND MATURATION

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Little is known about weight management behaviors (WMB) such as calorie restriction, taking diet pills, or excessive exercise among youth. Surveillance data are limited to primarily high school students, a time after students initiate WMB. Determinants of WMB are multifactorial, but rarely include biological markers other than age. Using data from 453 Mexican American boys and girls ages 9-16.99 years living on the US-Mexico border, we assessed the association between estimated age at peak height velocity with WMB; and examined the relationship between timing of menarche with WMB among the girls. Participants completed a survey as part of an evaluation of school physical education programming. Height, weight, and sitting height were measured. Maturity offset was used to estimate age at peak height velocity (PHV). Participants were classified as pre-PHV or post-PHV. Girls were also categorized as pre-menarche, or early, average or late maturing based on age at menarche. Logistic regression analyses were conducted to examine the likelihood of engaging in WMB by estimated age at PHV and, for girls, timing of menarche. Participants (Mean age = 12.46 years), were 53.2% female, and 42.8% overweight or obese. More girls than boys were post-PHV (60.6% vs 39.2% respectively, $P < 0.0001$). Students who were ≥ 85 th percentile for weight were more likely to describe themselves as slightly or very overweight, and try to lose weight through exercise or calorie restriction ($P < 0.0001$ for all tests). Few participants indicated taking diet pills, laxatives or vomiting to lose weight ($n=11$). Those who were post-PHV were more likely to exercise to lose weight (OR = 4.15, $P < 0.0001$) and 3.40 times more likely to restrict calories ($P < 0.0001$). Boys were more likely to exercise to lose weight (OR = 1.87, $P=0.012$) and 1.91 times more likely to restrict calories ($P=0.004$). WMB did not vary by maturational timing among girls. WMB may be related to timing and tempo of growth among Mexican American youth. Boys engaged in weight control more than girls although fewer boys were post-PHV. The timing of weight control may begin prior to PHV, a time when body shape and size are changing. More research is needed on how growth-related changes in body shape and size may influence weight control behaviors. Schools and community organizations may need to help students understand what their healthy weight is, and how best to achieve it.

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Paper Session 27

12:45 PM-1:00 PM

RACIAL/ETHNIC DISPARITIES IN MEETING 5-2-1-0 RECOMMENDATIONS AMONG US ADOLESCENTS

Christina F. Haughton, MPH¹, Stephenie C. Lemon, PhD²

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BACKGROUND: Obesity prevention among youth is a major public health focus in the United States. National nutrition and physical activity recommendations to prevent obesity and promote well-being among youth have been summarized through Maine's "Let's Go! 5-2-1-0" initiative, which recommends ≥ 5 fruit and vegetables, ≤ 2 hours of screen time, ≥ 1 hour of physical activity, and 0 sugar sweetened beverages daily. Members of racial/ethnic minority groups experience higher rates of obesity across all ages. The study evaluates racial/ethnic disparities among adolescents meeting the 5-2-1-0 targets in a nationally representative sample. **METHODS:** The 2011-2012 NHANES dataset was used to conduct a cross sectional analysis of Hispanic ($n=287$), non-Hispanic Black ($n=321$), Asian ($n=145$) and non-Hispanic White ($n=234$) adolescents 12-19 years old. The 5-2-1-0 targets were evaluated using dietary recalls, Global Physical Activity Questionnaire, and questions about sedentary activities. Differences in the proportion of racial/ethnic groups meeting the 5-2-1-0 targets were compared using chi-square tests. Multivariable logistic models weighted to account for the complex sampling design and be nationally representative were used to evaluate racial/ethnic disparities in meeting the individual 5-2-1-0 targets and in meeting none of the targets. **RESULTS:** No adolescent met all four 5-2-1-0 targets. The study found 28% of White, 39% of Hispanic, 44% of Black and 35% of Asian adolescents met zero 5-2-1-0 targets. Compared to their White peers, Hispanic (AOR=1.76, 95% CI=1.04-2.98), Black (AOR=1.82, 95% CI=1.04-3.17) and Asian (AOR=1.48, 95% CI=1.08-2.04) adolescents had increased odds of meeting no 5-2-1-0 targets. Disparities were also observed in meeting individual 5-2-1-0 targets. **CONCLUSION:** Understanding the uptake of national nutrition and physical activity recommendations is necessary to reduce future obesity and health consequences in adulthood. Despite national initiatives, adolescents in the United States are far from meeting the 5-2-1-0 targets and there are racial/ethnic disparities in meeting the recommendations.

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Paper Session 27

1:00 PM-1:15 PM

IMPROVING HEART HEALTH BEHAVIORS AMONG AFRICAN AMERICAN WOMEN: CIVIC ENGAGEMENT AS A NOVEL APPROACH TO BEHAVIOR CHANGE

Sara Folta, PhD¹, Alison G.M. Brown, M.S.², Nesly Metayer, MA, PhD, EDM³, Linda B. Hudson, ScD ScM MSPH⁴

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Purpose: Cardiovascular disease affects 49% of African American compared to 32% of white women. Subgroup data in weight loss trials indicate that African Americans realize lower intervention effects compared to whites, suggesting that new intervention strategies are needed. The purpose of this pilot study is to test a novel, culturally appropriate behavior change strategy for African American women that links the individual and community levels of the eco-social model using civic engagement. **Methods:** Using a quasi-experimental pre-post study design, the civic engagement approach was tested by convening African American women in "Change Clubs" in churches in the greater Boston area. Feasibility was examined by measuring adherence, satisfaction, retention, and ability to meet benchmarks for community change. Effectiveness data included anthropometric factors, diet and physical activity behaviors, blood pressure and cardiorespiratory fitness. **Results:** For two completed Change Clubs, study retention was 83.3% (15 of 18 completed) and adherence was 73%. All participants were satisfied with their Change Club experience. Both Change Clubs met all of their self-identified benchmarks for community change. The intervention had a significant effect on % body fat (mean change: -1.2%; 95% CI: -2.2, -0.3; $p=0.01$), blood pressure (systolic, -10.4 mm Hg; -17.7, -3.0; and diastolic, -4.2; -8.0, -0.4; $p=0.03$), and 1-mile walk test time (-1.2; -2.3 min, -0.1 min; $p=0.04$). There was a trend toward significance in physical activity level (2,268 MET-min/wk; 1,453; $p=0.05$) and fruit intake (0.7 cup equivalents per day; -0.1, 1.6; $p=0.09$). There was no significant change in body weight or vegetable intake. **Discussion:** Data suggest feasibility and preliminary effectiveness for some outcomes in this novel community-engaged, culturally appropriate approach to behavior change in African American women.

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Paper Session 27

1:15 PM-1:30 PM

BLACK-WHITE DIFFERENCES IN SELF-EFFICACY AND WEIGHT CHANGE IN A 12-MONTH BEHAVIORAL WEIGHT LOSS PROGRAM

Rachel Goode, MSW¹, Qianheng Ma, Master of Science¹, Susan M. Sereika, PhD¹, Lu Hu, PhD student², Juliet M. Mancino, MS³, Meghan K. Mattos, MSN⁴, Dara Mendez, PhD, MPH⁵, Christopher C. Imes, PhD⁶, Cynthia Danford, PHD, RN, PNP-BC, CPNP-PC¹, Yaguang Zheng, PhD, MSN, RN⁷, Lora E. Burke, PHD, MPH, FAHA, FAAN¹

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Background: Evidence suggests that increases in healthful eating self-efficacy are associated with increased weight loss. However, the literature suggests there may be differences between blacks and whites in self-efficacy and weight change. The purpose of this analysis was to examine changes in self-efficacy and weight over time between whites and blacks. **Methods:** This is a secondary analysis of data of whites and blacks only from a 12-month behavioral weight loss study. We assessed self-efficacy for healthful eating to support weight loss using the Weight Efficacy Lifestyle Questionnaire (WEL, 0-180, higher score indicates higher self-efficacy). We used linear mixed modeling and general linear modeling to examine differences between whites and blacks on % weight change and % change in WEL from baseline to 6 and 12 mos. **Results:** The sample (N=145) was 91.0% female and included 25 blacks (b) and 120 whites (w). There were no significant racial differences in BMI (b: 34.62; w: 34.08) at baseline. Race and % change in WEL score were associated with % weight change at 6 and 12 mos. ($p < .001$). At baseline, blacks had significantly higher ($p=.011$) total WEL scores than whites (118.1 vs. 101.5). At 6 mos., the scores of blacks decreased (-7.88), but slightly increased (+4.56) at 12 mos. Among whites, there was an increase in WEL score at 6 mos. (+10.39) that was maintained at 12 mos. (-.94). Overall, whites achieved a higher % weight change than blacks (9.0% vs 4.2%) at 12 mos. ($p=.007$). **Conclusion:** Among blacks, we observed a higher baseline WEL score that decreased at 6 mos., and then increased at 12 mos. In contrast, among whites, we observed an increase in WEL score at 6 mos. that was maintained at 12 mos. The observed WEL changes among blacks may have been related to the treatment length and the unanticipated challenges of adopting healthful eating behaviors. However, there likely are other factors contributing to the observed differences in the WEL scores that need further investigation to help improve weight loss outcomes among blacks.

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Paper Session 28

12:30 PM-12:45 PM

PROSTATE CANCER PATIENTS' QUALITY OF RELATIONSHIP WITH THEIR PHYSICIANS IMPACTS THEIR TREATMENT CHOICE

Heather Orom, PhD¹, Zinan Cheng², I'Yanna Scott³, Willie Underwood, III, MD, Msci, MPH⁴, D Lynn Homish, BS⁵

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Introduction: Patient-centered care may increase adherence to physician recommendations. The goal of this study was to examine whether patient-centered care was associated with greater influence of a physician's treatment recommendation on men with newly diagnosed prostate cancer. We tested whether a composite of shared decision-making, trust in physician, and closeness to physician, was associated with choosing a recommended treatment. **Method:** Prostate cancer patients who received a treatment recommendation from at least one physician (N=994; 84% White; 29% chose active surveillance, 20% chose radiation, 51% chose surgery) rated their relationships with these physicians (up to 5) after they made their decision, but prior to treatment. Treatment received was confirmed via chart abstraction or, in a minority, patient report. We used generalized estimating equations to analyze whether quality of the relationship with the physician predicted choosing the recommended treatment and whether this relationship varied by disease aggressiveness (Gleason score at biopsy), and type of treatment recommended (active surveillance vs. radiation vs. surgery). Covariates included prostate cancer knowledge, education, marital status, race/ethnicity, employment status, age at diagnosis, and recruitment site. **Results:** As predicted, receiving more patient-centered care was associated with greater likelihood of a match between the treatment recommended and received (RR=1.16, $p < .001$). There was a 3-way interaction between patient-centered care, disease aggressiveness, and treatment recommended ($ps < .004$) that revealed that the main effect of patient-centered care was due, to a greater extent, to patients with lower risk Gleason 6 disease who chose aggressive treatment (either radiation or surgery) compared to those who chose active surveillance. **Discussion:** Shared decision making, trust in, and closeness to physicians, likely increase uptake and adherence to aggressive or invasive treatments. There are concerns that low risk prostate cancer has been overtreated; indeed, recommendations for radiation or surgery from physicians with whom patients have close, trusting relationships could steer them toward choosing definitive treatment over active surveillance.

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Paper Session 28

12:45 PM-1:00 PM

ACTIVE TREATMENT DECISION MAKING ASSOCIATED WITH BETTER DECISIONAL OUTCOMES, BUT MORE DECISIONAL DIFFICULTY

Caitlin Biddle, MA¹, Willie Underwood, MD, Msci, MPH², D Lynn Homish, BS³, Heather Orom, PhD¹

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Background: Patient engagement in treatment decision-making is considered an important step in reducing treatment regret and improving patient satisfaction. Few studies have shown whether patients' involvement in treatment decision-making control is associated with quality of the treatment decision-making process; we addressed this gap. **Methods:** Participants were 1456 prostate cancer patients (83% white, 10% black, 6% Hispanic) who completed measures of their preferred and actual treatment decision-making roles (less vs. equal vs. greater control than their doctors) shortly after making their treatment decision. We analyzed multivariable associations between patients' actual role and the match between preferred and actual role, and decisional conflict, decision-making satisfaction and difficulty, controlling for education, perceived social status, employment status, race/ethnicity, marital status, age, self-reported Gleason score, and recruitment site. **Results:** The majority of men preferred to have equal (35%) or greater (58%) decision-making control than their doctors and 97% of men experienced their preferred role. Experiencing greater control was associated with lower decisional conflict ($ps < .001$). **Conclusion:** Patients prefer to be actively involved in treatment decision-making and active involvement is associated with positive decisional outcomes; however, active involvement may also be difficult. With a majority of patients preferring and engaging in greater control, patients may need decisional support to reduce the difficulty of active engagement in treatment decision-making.

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Paper Session 28

1:00 PM-1:15 PM

A QUALITATIVE ANALYSIS OF MEDICAL DECISION-MAKING AND ILLNESS EXPERIENCE IN PAPILLARY THYROID CANCER

Thomas A. D'Agostino, PhD¹, Elyse Shuk, MA², Erin Maloney, PhD³, Rebecca Zeuren, NP⁴, Michael Tuttle, MD¹, Carma Bylund, PhD⁴

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Background: Advances in ultrasound screening and modern medical practices have contributed to a dramatic rise in the diagnosis of subclinical, low-risk papillary thyroid cancer (PTC). Given the indolent nature of PTC and concerns of overtreatment, active surveillance (AS) may represent an attractive treatment alternative to immediate surgery. In order to guide treatment decision making and support services, research is needed to develop a better understanding of the ways in which PTC patients perceive and manage risks and benefits associated with surgery and AS. **Method:** Individual and group interviews were conducted with 15 PTC patients (4 surgery; 11 AS). Interview transcripts were analyzed using inductive thematic text analysis and the targeted procedures of grounded theory. Participants completed a follow-up interview, which served as a member check. **Results:** Reflecting a decision making process characterized by intuition and urgency, surgery patients focused on a goal of eradicating cancer and arrived quickly at the choice of thyroidectomy. Surgery patients feared that AS would leave them vulnerable to disease progression and viewed the uncertainty of living with a known cancer as intolerable. Alternatively, AS patients expressed a more favorable view of their PTC. AS patients were less fearful of disease progression and expressed greater worry over the quality of life and physical functioning ramifications of living without a thyroid. **Conclusions:** It appears that surgery and AS patients adopt different perspectives in weighing risks and benefits as well as in managing disease- and treatment-related worries. Patient-centered communication is recommended to best support the treatment decision making process of PTC patients. A physician must work to understand the concerns, needs, and preferences that characterize patients' illness experience. Such details can guide the framing of information and recommendations and assist in linking patients to available support services as needed.

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Paper Session 28

1:15 PM-1:30 PM

AN ASSESSMENT OF FACTORS INFLUENCING PHYSICIANS' TREATMENT RECOMMENDATIONS FOR LOW RISK PROSTATE CANCER

Paula Bellini, MA¹, Kimberly M. Davis, PhD², Charlotte Hagerman, BA³, Riley Zinar⁴, Daniel Leigh⁵, Amethyst Leimpeier, MS⁶, Kathryn Taylor, PhD⁷, Richard Hoffman, MD, MPH⁸, Stephen K. Van Den Eeden, PhD⁶

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Active surveillance (AS) continues to be underutilized among men with low-risk prostate cancer (PCa), despite similar rates of disease progression and mortality for men undergoing AS vs. active treatment (AT; i.e., surgery or radiation). We conducted semi-structured interviews to assess factors that physicians consider important when recommending AS vs. AT, as well as physicians' perceptions of what their patients' consider important in the decision. Participants were urologists (N=11), radiation oncologists (N=12), and primary care physicians (N=10), from Kaiser Permanente of Northern California, and academic medical centers, a VA and private practices in the Washington, DC area. Physicians' mean age was 46.2 (SD=10.4) and 30.3% were female. Each interview was audio-recorded (range= 35–90 minutes). Across all three specialties, most physicians reported that the following patient factors "somewhat" or "very much" influenced their recommendation for AS: older patient age (100%), willingness to follow a surveillance protocol (89%-100%), ability to follow surveillance protocol (75%-100%), patient anxiety (80%-91%), comorbidities (100%), life expectancy (89%-100%), risk of disease progression (78%-91%), treatment preferences (92%-100%), and risk of treatment side effects (83%-91%). Physicians indicated that several patient factors were associated with a lower likelihood of men selecting AS: high PCa anxiety (0%-20%), being African American (0%-20%), and being married (0%-40%). Factors that increased men's likelihood of selecting AS were older age (67%-100%), fear of treatment side effects (80%-100%), comorbidities (60%-100%), knowledge of others' negative treatment experiences (60%-100%), and being sexually active (60%-100%). Results comparing physician specialties will be presented. These results highlight the factors involved in the treatment decision making process for men with low risk PCa, and the importance of considering both the physician and patient perspective in this process.

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MERITORIOUS AWARD WINNER

Paper Session 29 12:30 PM-12:45 PM

THE SMARXT MEDIA LITERACY PROGRAM: A PILOT STUDY TO IMPROVE EVIDENCE-BASED PRESCRIBING AMONG MEDICAL RESIDENTS

Bethany Corbin, BS, Jason B. Colditz, M.Ed., Allison Raithe, Galen E. Switzer, PhD, Jaime Sidani, PhD, MPH, CHES, Patricia Klatt, Brian A. Primack, MD, PhD

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Background: A substantial proportion of the 3 billion prescriptions written annually are not evidence-based, resulting in unnecessary morbidity and mortality, and contributing to rising healthcare costs. The SMARXT intervention uses media literacy—an innovative approach encouraging individuals to analyze and evaluate sponsored messages—to help medical residents, a population vulnerable to pharmaceutical-sponsored messaging, optimize patient communication and evidence-based decisions at the point-of-care. **Methods:** We pilot tested the SMARXT program with medical students. Thirty students were recruited via electronic mail and compensated \$40 each for completing the entire program. The curriculum consisted of six 10-15 minute video modules involving two physicians conversing about topics such as pharmaceutical marketing and prescribing. Questionnaires used multiple-choice items to assess knowledge around evidence-based prescribing and drug marketing before and after the intervention. **Results:** The curriculum and assessment items were completed by 21 (70%) of the volunteered students, 38% were female. While the majority of participants were second year students (76%), there was participation from all levels. At baseline, participants were correct on a median (IQR) of 24 (22-27) items out of 62. However, after the curriculum, there was significant improvement, with a median (IQR) of 47 (43-50) items correct ($p < .001$). In open-ended assessments, participants were enthusiastic about the content and relevance of the curriculum, but many suggested a preference for the videos to be at 1.5x speed. **Conclusions:** The SMARXT program was feasible to implement and was completed by the majority of participants. Knowledge around evidence-based prescribing and drug marketing improved after the intervention and was generally accepted by the medical students. This pilot study will help inform the ultimate implementation of this curriculum toward its intended audience of medical residents.

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Paper Session 29

12:45 PM-1:00 PM

ADOLESCENTS' PERSPECTIVE ON THE PHYSICAL, SOCIAL AND PSYCHOLOGICAL ASPECTS OF BEING ON A WAITING LIST FOR ORTHOPEDIC SURGERY

Marie Achille, Ph.D.¹, Marie Grimard¹, Magali Lang, B.A.¹, Vanessa Léveillé, B.A.¹, Stefan Parent, M.D., Ph.D.², Sylvie LeMay, Ph.D.³, Soraya Barchi, B.Sc.², Julie Jonas, B.Sc.N.², Guy Grimard, M.D.²

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CONTEXT: Pre-surgical waiting lists are a reality well known to several health-care systems. The empirical literature to date has documented the negative impacts of waiting times (increased stress, pain; social withdrawal; decreased overall functioning, quality of life) and has focused almost exclusively on adults. The present project was carried out in collaboration with a multidisciplinary team in orthopaedics to examine the experience of adolescents waiting for surgery. The goal was to inform the development of tools that can facilitate this experience and reduce its negative impacts. **METHODS:** The present qualitative study was conducted with adolescents selected from the orthopaedic waiting lists of a university-affiliated children's hospital. The sample was diversified on the basis of gender (10 girls, 2 boys), age (12 to 19 years), type of surgery (idiopathic scoliosis spinal fusion surgery (n=7), surgical reconstruction of the anterior cruciate ligament (n=5), and time spent on the waiting list (1 to 14 months). Individual semi-structured interviews were conducted and transcribed verbatim. Interpretative phenomenological analysis was used as a framework for data analysis. **RESULTS:** Contrary to a priori assumptions that being on a waiting list would be perceived as a primarily, if not exclusively, negative experience, results allowed identification of positive aspects. The waiting period was perceived as a time for physical and mental preparation for surgery, a preparation that was facilitated by an attitude of acceptance, information gathering and the presence of a supportive network. Perceived negative aspects included physical limitations, fears regarding the surgery and postoperative period, and frustration toward the health care system that sometimes lead to intentional noncompliance. **CONCLUSION:** The experience of being on a waiting list allows for an important pre surgical preparation. However, negative psychological impacts remain that compound the physical sequelae documented previously by the orthopaedics team (scoliosis deterioration; risk for arthrosis of the knee). A web-based information kit validated by experts would likely facilitate information gathering. A large-scale, prospective longitudinal study would allow examination of the impact of differential waiting times, which was a limit of the present study.

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Paper Session 29

1:00 PM-1:15 PM

"CONTINUING THE CONVERSATION:" ONGOING FOLLOW-UP OF PERSONALIZED HEALTH PLANS

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Personalized health planning (PHP) is a process whereby patients and clinical teams collaborate to identify health goals based upon patient priorities. Institute of Medicine identifies patient-clinician partnerships as critical for a continuously learning healthcare system, and the Veteran's Health Administration (VHA) has undertaken transformational activities to implement PHP nationally. PHP is meant to be a "living document" to be revisited at least annually in order to support patients to achieve health goals and facilitate care continuity. We aimed to examine if and how VHA clinical teams incorporate follow-up with Veterans after a PHP is established. We conducted semi-structured interviews with 10 VHA facility leads who were implementing PHP within their respective programs. Interview transcripts were analyzed using rapid content analysis to identify facility processes for follow-up conversations. We found variation in the extent to which follow-up was incorporated across a number of domains. The period of time between baseline PHP completion and follow-up ranged from one week to six months. Practices ranged from no indication of a definitive process to iterative sessions in which the PHP was revisited. The team members responsible for follow-up included nurses, primary care physicians, health coaches, and Veteran peer support specialists. Some sites attempted to automate the process by designing flags or templates for the electronic medical record to alert providers of a completed PHP. In some contexts (e.g., health coaching sessions, pain clinic visits), the PHP was revisited during regularly scheduled sessions. While there is variation in how sites engage in PHP with Veterans, the consistency of follow-up remains unclear, and many sites have yet to incorporate long-term plans for follow-up conversations to ensure that PHP remains a "living document". Establishing PHP should include a clear plan for ongoing follow-up of patient health goals to monitor progress and priorities so that these plans have a role throughout the course of clinical care.

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Paper Session 29

1:15 PM-1:30 PM

AGENCY AND RESISTANCE STRATEGIES AMONG BLACK PRIMARY CARE PATIENTS

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Introduction: Patients' active participation during patient-physician clinic visits can improve information exchange and outcomes; however, prior research suggests that Black patients demonstrate fewer participatory behaviors during clinic visits than white patients. This study uses a cultured-centered theory (Dutta, 2001) to examine the ways in which Black patients use agency and resistance behaviors that may represent active participation during clinical interactions. **Methods:** Data were taken from a larger study of communication between low-income, black patients and their physicians in an urban primary care clinic. Patients reporting a significant history of previous discrimination ($n=25$) were selected for the present study. Data included patient self-reports of demographics and history of discrimination and video recordings and transcripts of clinic visits. Using qualitative content analysis, coders identified and classified patients' verbal and nonverbal behaviors to identify instances of patient agency and resistance. Using an iterative process of constant comparison, coders inductively categorized the instances by communication behavior and then collapsed categories into overarching themes. **Results:** Patients demonstrated several agency behaviors including expressing needs and desires, providing observations about their identity and their prior treatment, and setting the agenda for the visit. Patients also demonstrated resistance to their physician's proposed diagnoses and/or treatment plans using passive and active behaviors such as silence, referencing other knowledge, proposing alternatives, questioning the physician's competence, and refusing proposed treatments. Patients also provided physicians with relevant psychosocial and contextual information. **Discussion/Implications:** Health researchers should acknowledge the complex and nuanced range of active behaviors that black patients may demonstrate during clinical interactions. Future studies should explore the influence of culture in influencing patients' active participation and outcomes.

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CITATION AND MERITORIOUS AWARD WINNER Paper Session 30 12:30 PM-12:45 PM

ANGER, HOSTILITY AND RE-HOSPITALIZATIONS IN PATIENTS WITH HEART FAILURE: A STRUCTURAL EQUATION MODELING ASSESSMENT

Felicia Keith, M.S.¹, David S. Krantz, Ph.D.², Catherine M. Ware, M. A.³, Amy Lee, N.A.⁴, Paula Bellini, MA⁵, Kristie Harris, MS⁶, Stephen Gottlieb, MD⁷

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Objective: Heart failure (HF) is a major health problem with high rehospitalization rates and costs. Anger and hostility traits have been associated with cardiovascular (CV) and total morbidity and mortality. Using structural equation modeling (SEM), this study assessed the predictive ability of anger and hostility traits for CV, non-CV related, and all-cause hospitalizations in HF patients. **Methods:** 150 HF patients (113 male; mean age=56.82yrs) were recruited at the University of Maryland Hospital in Baltimore. Participants were administered the Spielberger STAXI to measure anger and subcomponents, and the Cook-Medley Hostility Inventory to measure Cynicism, Hostile Attribution, Hostile Affect, Aggressive responding, and Social avoidance components. Verified hospitalization data were prospectively collected every 6 months for up to 3 years and classified as CV related (e.g., HF, angina, MI, arrhythmia, etc.), non-CV (e.g., pulmonary, other chronic and acute disorders, accidents), and all-cause hospitalizations. **Results:** SEM measurement models were fit for the latent variable Anger (State-Anger, Trait-Anger, Anger-Expression Out, and Anger-Expression In; RMSEA=.07, TLI=.97, CFI=.99), and for Hostility (Cynicism, Hostile Affect, Aggressive Responding, and Hostile Attribution; RMSEA=0.0, CFI=1.00, TLI=1.0). Anger (as a latent variable) did not predict re-hospitalizations. The latent construct of Hostility significantly predicted all-cause hospitalizations ($B=.70$). Individual regression analyses of anger components found that Anger-Expression Out predicted all-cause hospitalizations ($B=.15$, $p=.05$) and non-cardiac hospitalizations ($B=.22$, $p=.05$), and Trait Anger ($B=.12$, $p=.05$) predicted non-cardiac hospitalizations. **Conclusion:** The overall construct of Hostility, and certain Anger components predict all cause and non-cardiac hospitalizations. Effects of anger and hostility on hospitalizations may not be specific to CV mechanisms and suggest a general vulnerability to hospitalizations in patients with comorbid chronic diseases.

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Paper Session 30

12:45 PM-1:00 PM

ANGER AND SHORT-TERM HEART FAILURE OUTCOMES: COMPARISON WITH PERCEIVED STRESS

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Background: Anger episodes may trigger cardiac events, and we previously found that short-term perceived stress levels were associated with heart failure (HF) exacerbations. This study investigates associations between anger and short-term hospitalizations or death, functional status, symptoms, and B-type natriuretic peptide (BNP), in HF patients. **Methods:** In 144 systolic HF patients, anger (State Trait Anger Expression Inventory), stress (Perceived Stress Scale (PSS) and Weekly Stress Inventory), and cardiovascular (CV) hospitalizations or death (adverse events; AE) were prospectively assessed at 2-week intervals for 3 months, and AE also assessed at 9-months from baseline. Functional status (6 minute walk test; 6MWT), symptoms (Kansas City Cardiomyopathy Questionnaire), and BNP were also assessed biweekly. Mixed model analyses were used. **Results:** Average anger and PSS were strongly correlated ($r=.51$, $p < .01$). Acute increases in anger were associated with decreased 6MWT ($B=-2.55$, $p=.035$), and high average anger with worsened symptoms ($B=-1.23$, $p < .0001$). Anger was not associated with AE. Controlling for PSS, associations between anger and 6MWT and symptoms were no longer significant. Conversely, controlling for anger, average PSS was significantly associated with AE ($B=.12$, $p=.001$) and worsened symptoms ($B=-1.57$, $p < .0001$); and acute PSS increases with worsened symptoms ($B=-.24$, $p=.003$) and decreased functional status ($B=-2.94$, $p=.004$). There were no effects of anger or stress on BNP. **Conclusions:** Anger is associated with short-term fluctuations in functional status and mean worsened symptom status in HF patients, but stress is more strongly associated with these endpoints and AE than anger. After controlling for stress, anger was not associated with any HF outcomes. Effects of anger may operate through its associations with psychological stress.

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Paper Session 30

1:00 PM-1:15 PM

SUCCEED: A PILOT STUDY OF A HEART FAILURE SELF-MANAGEMENT PROGRAM FOR COUPLES

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Objectives: To develop and pilot test a couples' based self-management program for heart failure (HF) called Self-management Using Couples Coping Enhancement of Diseases (SUCCEED) Program. **Methods:** SUCCEED is a couples' based 6-session program that provide skills to enhance communication and collaboration in managing HF. We used a pre-post study design to measure intervention feasibility, acceptability, and to pilot recruitment methods. 250 couples identified from medical charts were invited to participate in SUCCEED via telephone or in-person. Enrolled couples completed pre-post psychosocial questionnaires, and rated the acceptability, usefulness, and applicability of each session on a 5-point scale (higher=better). Semi-structured exit interviews were conducted with couples to enhance the program. **Results:** 17 couples enrolled, and 10 couples completed all 6 sessions. The most common reason for non-enrollment was patient refusal ($n=101$). Half of all withdrawals was due to patients' worsening health. All but 1 couple completed SUCCEED over the phone. Patients were 68 y ($SD=11.3$) and partners were 64 y ($SD=11$). Among the completers, patients showed improvements in HF-specific quality of life (Minnesota Living with HF Questionnaire, 50.8 v 56), and self-management confidence (Self-care of Heart Failure Index, 63 vs 69). Partners improved in dyadic coping (141.9 v 136.2). Couples rated the sessions highly (Mean: 4.6; Range: 4.2-5) and appreciated the convenience of phone delivery. Couples recommended enrolling non-HF patients, non-spousal caregivers, and providing group meetings. **Conclusions:** In this small pilot study, a couples' based self-management program appears to be acceptable to couples managing HF. Recruitment was improved by modifying frequency and content of contact and by using opt-out invitation letters. **Impact:** Self-management has been shown to improve HF outcomes but has not systematically involved the patient-caregiver dyad. Providing tailored skills to patients and their partners may be an important strategy in improving HF self-management.

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Paper Session 30

1:15 PM-1:30 PM

PATIENT, CAREGIVER, AND PROVIDERS' PERCEPTIONS OF BARRIERS TO HEART FAILURE CARE

Cindie Slightam, MPH¹, Andrea Nevedal, PhD¹, Vincent Fan, MD², Karin Nelson³, Ranak Trivedi, PhD⁴¹VA Palo Alto Health Care System, Menlo Park, CA; ²VA Puget Sound Health Care System, Seattle, WA; ³VA Puget Sound, Seattle, WA; ⁴VA Palo Alto Healthcare System, Menlo Park, CA

Objectives: To characterize barriers and facilitators of heart failure (HF) self-management as perceived by clinical providers, patients, and spousal caregivers. **Methods:** We conducted semi-structured interviews with 17 couples where one member had HF, and 12 clinical care providers who cared for HF patients within the VA Palo Alto Health Care System. Interviews were approximately 45 min each and focused on individual, relationship, and institutional barriers and facilitators to HF self-management. Strategies to overcome barriers were elicited. All interviews were transcribed and analyzed using rapid qualitative analyses methods and inductive and deductive coding techniques. **Results:** Patients and providers highlighted the role of spousal caregivers in managing medications and dietary recommendations. Patients' barriers to self-management included disability, pain, and reduced mobility. Patients and spousal caregivers both noted that stress and interpersonal conflict were barriers in managing HF. Spousal caregivers noted that the lack of direct communication with clinical providers hindered their efforts to care for the patient. Provider-reported barriers included poor communication about treatment plans between the medical team, and with patients and their families. Other barriers were the lack of standardized protocols to provide self-management education, inconsistent discharge instructions, and delays in follow-up care. Family caregivers were seen as critical in helping patients adhere to self-management recommendations. **Conclusions:** Providers, patients and spousal caregivers highlighted the role of communication as critical to patient care. Tools to enhance communication and collaboration may enhance the relationship between patients and their spousal caregivers, and between couples and providers. **Impact:** Addressing individual, couples' level, and institutional barriers to self-management is critical to enhancing self-care. Supporting the roles and needs of spousal caregivers could represent potential strategies in optimizing disease outcomes.

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Paper Session 31

12:30 PM-12:45 PM

RACIAL IDENTITY ATTITUDES AND HEALTH RELATED QUALITY OF LIFE AMONG BLACK BREAST CANCER SURVIVORS

Nicole (Nicky) Whitehead, Ph.D.¹, Paris Wheeler, B.S.¹, Debra Annane, M.A., M.P.H.², Belinda Ryan, Robertson, B.S.², Michael Antoni, PhD³, Suzanne Lechner, Ph.D.²¹University of Florida, Gainesville, FL; ²University of Miami, Miami, FL; ³University of Miami, Coral Gables, FL

The influence of race on health related quality of life (HRQoL) has been well documented. However, most of this research examined racial group assignment rather than Black racial identity attitudes (i.e., the degree to which Black race is a salient factor for individuals). We examined racial identity attitudes as conceptualized by the expanded nigrescence theoretical model using the Cross Racial Identity Scale (CRIS) which groups attitudes into three thematic categories. *Preencounter* attitudes reflect low/negative race salience. *Immersion-Emersion* attitudes reflect fluctuating attitudes of race salience and *Internalization* attitudes indicate a sense of reconciliation with being Black in a multicultural world. Participants were 97 Black women (mean age = 51.1) who completed breast cancer treatment 0-12 months prior. Controlling for age, months since diagnosis and income category we found an association between racial identity attitudes and HRQoL (FACT-B). Negative Preencounter racial identity attitudes had a negative association, $\beta = -.37$; $p = .001$ with overall HRQoL versus the Internalized racial identity which had a positive association, $\beta = .21$; $p = .047$ with overall HRQoL. Across specific domains of HRQoL we found: Negative Preencounter racial identity attitudes had a negative association with social/family well-being, $\beta = -.42$; $p = .000$; emotional well-being, $\beta = -.41$; $p = .000$; Functional well-being, $\beta = -.30$; $p = .011$ and breast specific concerns, $\beta = -.37$; $p = .001$. Conversely, Internalized racial attitudes were positively associated with emotional well-being, $\beta = .27$, $p = .009$ and breast specific concerns, $\beta = .21$; $p = .048$. Results suggest it is imperative that we go beyond using group assignment as the primary measure of how race affects HRQoL. Findings reveal that the salience an individual assigns to race influences their HRQoL.

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Paper Session 31

12:45 PM-1:00 PM

DISEASE BURDEN AND PAIN IN OBESE CANCER PATIENTS WITH CHEMOTHERAPY INDUCED NEUROPATHIC PAIN: OPPORTUNITY FOR INTERVENTION

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Objective: This project sought to investigate differences in disease burden and pain in obese vs. not obese cancer patients with chemotherapy induced-neuropathic pain (CINP). Chemotherapy is often accompanied by long-lasting sequelae that can impact a patient's quality of life. CINP can lead to long-term sensory, motor, and autonomic symptoms, increasing overall levels of distress for survivors. It is important to understand what groups of patients may be more likely to experience higher levels of disease burden and pain in this population so that they can be better targeted for intervention. **Methods:** The cross-sectional sample consisted of patients (N = 90) with various cancer diagnoses who had developed CINP as a consequence of cancer therapy. Participants were grouped based on their body mass index (BMI) as either being not obese (BMI < 30) or obese (BMI ≥ 30). Independent t-tests were used to compare these two groups on measures of symptom severity and interference as measured by the MD Anderson Symptom Inventory, and pain as measured by items from the McGill Pain Inventory. **Results:** There was a significant difference in the symptom severity scores between obese ($M = 32.89$, $SD = 25.52$) and not obese ($M = 20.33$, $SD = 17.30$) patients; $t(39.47) = -2.28$, $p = 0.028$. However, no significant difference was found for symptom interference. Furthermore, a significant difference in total number of pain descriptors endorsed was observed, with obese individuals reporting nearly double the number of descriptors as those who were not obese ($M = 4.21$, $SD = 3.44$ vs. $M = 2.45$, $SD = 2.66$; $t(45.67) = -2.34$, $p = 0.024$). **Conclusion:** Results indicate that obese cancer patients with CINP are likely to experience higher levels of disease burden through symptom severity as well as pain. This may increase their risk for treatment-related distress as well as decreased quality of life. Monitoring distress in obese patients with CINP is of clinical importance to inform targeted intervention.

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Paper Session 31

1:00 PM-1:15 PM

INFLUENCE OF CHANGE IN EMPLOYMENT PARTICIPATION ON HEALTH-RELATED QUALITY OF LIFE IN MIDDLE-AGED COLORECTAL CANCER SURVIVORS

Jeff Vallance, PhD¹, Vanessa L. Beesley, PhD², Gabor Mihala, PhD³, Brigid Lynch, PhD⁴, Louisa Gordon, PhD³¹Athabasca University, Athabasca, AB, Canada; ²QIMR Berghofer Medical Research Institute, Brisbane, Australia; ³Griffith University, Meadowbrook, Australia; ⁴Cancer Council Victoria, Melbourne, Australia

Objectives: The purpose of this study was to examine the influence of changes in employment participation over a 12-month period on health-related quality of life (HRQoL) among individuals with colorectal cancer. **Methods:** This study was a prospective, population-based study that enrolled middle-aged (45–64 years) residents of Queensland, Australia, who were in the paid workforce, and newly-diagnosed with colorectal cancer (N=150). Participants completed structured telephone interviews at six and 12 months after diagnosis assessing HRQoL [both generic (SF-36) and disease-specific (FACT-C)] and employment status ('retired/ceased work', 'increased work', 'decreased work' and 'unchanged'). These four categories were collapsed into 'maintained/increased', and 'reduced/retired'. Survivors were matched by gender and five-year age group to comparison individuals who had participated in both Wave 10 (2010) and 11 (2011) of the Household, Income and Labour Dynamics in Australia (HILDA) Survey. **Results:** Survivors who reduced work or retired had significantly lower scores on the physical composite score (SF-36) at six-months (36.7 v 45.7; $p < .001$) and 12-months (42.6 v 50.6; $p < .001$). For disease-specific HRQoL (FACT-C) 'reduced/retired' survivors reported significantly lower scores on the FACT-C at six months (98.4 v 108.2; $p = .001$) and 12-months (103.3 v 113; $p < .001$), compared to 'maintained/increased' survivors. Change in employment participation was only found to be a significant predictor of HRQoL within the multivariate model examining PCS at 12 months (Table 3). 'Reduced/retired' had significantly lower PCS at 12 months than 'maintained/increased' survivors (41.9 v 47.3, $p = .003$). **Conclusion:** Colorectal cancer survivors who had reduced work participation or retired had significantly lower generic and disease-specific HRQoL compared to survivors maintained or increased work participation. The differences in disease-specific HRQoL (i.e., FACT-C) met thresholds for determining a minimal important difference.

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Paper Session 31

1:15 PM-1:30 PM

INFLUENCE OF COGNITIVE BEHAVIORAL THERAPY FOR INSOMNIA (CBT-I) ON QUALITY OF LIFE (QOL) IN CANCER SURVIVORS

Anita Peoples, PhD¹, Charles Heckler, PhD¹, Sheila Garland, PhD², Charles Kamen, PhD, MPH¹, Luke Peppone, Ph.D. MPH³, Karen Mustian, PhD, MPH⁴, Gary Morrow, PhD¹, Joseph A. Roscoe, PhD¹

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Background: Poor sleep quality is significantly correlated with diminished QOL in cancer survivors, allowing for the possibility that improvement in sleep quality may improve QOL. We performed secondary analyses from a 4-arm RCT examining the efficacy of CBT-I with and without armodafinil, compared to armodafinil alone and placebo alone, for insomnia in cancer survivors. Herein, we examine the association of QOL with sleep quality and CBT-I over time. **Method:** Analyses, collapsing across the non-effective armodafinil condition, were performed on 69 cancer survivors (mean age 56, 90% female, 70% breast cancer). QOL was assessed by the Functional Assessment of Cancer Therapy-General (FACT-G, higher is better) and sleep quality by the Pittsburgh Sleep Quality Inventory (PSQI, lower is better) and sleep diary (SD, 1–4 scale, higher is better), prior to the 7-week CBT-I intervention (baseline), at post intervention, and three months later (follow-up). Simple change scores from baseline to post and baseline to follow-up were calculated for all measures for patients who did (N=36) or did not (N=33) receive CBT-I. Pearson's correlations and ANCOVA were performed. **Results:** For the CBT-I group, mean scores at baseline, post and follow-up were: FACT-G: 80.3, 90.6 and 92.8; PSQI: 10.9, 4.5 and 4.1; SD: 2.1, 2.8 and 2.8. Corresponding scores for non-CBT-I group were: FACT-G: 77.0, 78.7 and 78.3; PSQI: 12.3, 9.1 and 9.6; SD: 2.1, 2.2 and 2.2. Change scores in QOL were significantly associated with concurrent changes in sleep quality (PSQI: R's = -0.40 and -0.41; both p's<0.005 and SD: R's = 0.31 and 0.50; both p's<0.05). ANCOVA controlling for scores at baseline showed significantly better scores in all three measures at post and follow-up in the CBT-I group than the non-CBT-I group (all p's<0.005). **Conclusions:** In cancer survivors with insomnia, changes in QOL over time are associated with concurrent changes in sleep quality, and CBT-I improves both sleep quality and QOL.

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Paper Session 32

12:30 PM-12:45 PM

EFFECT OF PLAY STREETS ON PHYSICAL ACTIVITY IN CHILDREN

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Purpose: To investigate the efficacy of two, 3-week Play Streets events (scheduled events in which streets are closed to motorized vehicles and opened for recreational activities) on physical activity levels in children residing in neighborhoods characterized by high poverty and crime. **Methods:** Play streets events occurred on consecutive Saturdays from 10am to 2pm in two neighborhoods. In one neighborhood, children and parents participated in a 5-week pilot study that overlapped with Play Streets events. Children wore Fitbit™ devices and parents completed questionnaires on their perceived neighborhood environment. In the both neighborhoods during Play Street events, participant activity was assessed using a modified SOPARC method and surveys assessed adults satisfaction and perceived value of Play Streets, transportation mode to the event, and demographics. **Results:** Children (n=21) accumulated significantly more steps on Saturdays with a Play Streets compared to a Saturday without a Play Street or an average weekday (11208 steps vs. 7816 vs. 7236, respectively, p < 0.001). This increase is due to an increase in steps during the 10am to 2pm time frame, during which the Play Streets occurred (4003 steps vs. 1886 vs. 1509, p < 0.001). Across all SOPARC scans (8 scans x 6 Play Streets), an average of 10 adults and 22 children were observed at each scan, with a maximum of 29 adults and 44 children present at a Play Streets at any one time. Among the children attending the Play Streets, 43% were engaged in moderate physical activity and 25% in vigorous physical activity at the time of observation. **Conclusions:** Play streets events result in increased physical activity for children. The involvement of neighborhood, community, and policy-making entities may lead to institutionalization of the events.

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Paper Session 32

12:45 PM-1:00 PM

EFFECTIVENESS OF THE HEALTHY KIDS OUT OF SCHOOL (HKOS) PROGRAM

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Background: Tens of millions of US children regularly participate in out-of-school-time (OST) programs with opportunities to promote nutrition and physical activity, yet many programs fail to address these important health behaviors. **Objective:** This study evaluated the effectiveness of adopting three evidence-based principles for obesity prevention in volunteer-led OST programs during typical meetings/practices: *Drink Right:* Choose water instead of sugar-sweetened beverages (SSBs); *Move More:* Boost movement and physical activity in all programs; and *Snack Smart:* Fuel up on fruits and vegetables. **Methods:** The Out-of-School-Time Snacks, Beverages, and Physical Activity questionnaire, a validated tool, was distributed to leaders of enrichment (4-H and Boy Scouts) and youth sports (Youth Soccer, Pop Warner football/cheerleading, and YMCA) programs in three New England States (ME, MA, NH) serving 5-12 year old children to assess snack, beverage, and physical activity offerings at two time points: PRE (N=698), prior to available training on the principles and implementation of them; and at FOLLOW UP (N=453) toward the end of their program year or sports season. Indicators of success were defined as: serving water instead of SSBs all or most of the time, serving fruits and vegetables as snacks all or most of the time, and opportunities for physical activity >15 min for enrichment and >45 min for sports programs at all or most meetings/practices. **Results:** The percentage of enrichment programs meeting two or more success indicators was 26.5% at PRE versus 41.9% at FOLLOW UP. The percentage of sports programs meeting two or more success indicators at PRE was 85.3% versus 82.7% at FOLLOW UP. **Conclusion:** Following implementation of the HKOS program, enrichment programs shifted toward health promoting practices. Potential explanations for differing results in enrichment vs. sports programs will be discussed, as well as opportunities for continued research in these programs.

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Paper Session 32

1:00 PM-1:15 PM

TRANSLATION OF THE FIT INTERVENTION: A STUDENT DELIVERED WEIGHT LOSS PROGRAM IN PRIMARILY HISPANIC FAMILIES

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Background/Objectives: Hispanic communities are often medically underserved and demonstrate obesity health disparities. FIT for Health, a weight management program with preliminary efficacy being tested in a large efficacy trial, was implemented in a community setting to evaluate translation to primarily Hispanic families using students as facilitators. **Methods:** 62 children (BMI%≥ 85th; mean age=11.0±2.0 years; mean BMI%=96.3; 52% male; 78% Hispanic), and 56 parents (mean age=38±6.5 years; mean BMI=34.9±6.9; 87.5% female; 67% high school education or below) were randomized to a motivational, parenting, and skill building weight management (FIT for Health) program or a general health program (Control). Diet was measured with 3 24-hour dietary recalls at baseline and 12-week post-intervention, and objective measures of weight and height were collected at baseline, 12-week, and 6-month follow-up. Volunteer medical and graduate students implemented 12-weekly sessions at a local YMCA using facilitator guides and curriculum translated to Spanish. **Results:** 65% of children completed 12 week and 30.6% completed 6-month follow-up measures. Attendance was adequate (71% FIT; 61% Control) and participants reported high satisfaction with the program (100% enjoyed FIT; 96% were satisfied with progress). 100% of student facilitators found FIT facilitator guides helpful. Dietary outcomes evaluated with t-tests found youth in FIT significantly reduced daily mean caloric (-376.6±324.4, p<.05), fat (-18.3±19.9, p<.05), and sugar (-40.7±26.3, p<.01) intakes at 12-weeks post intervention as compared to Controls. A trend for BMI z-score reduction was found in FIT youth as compared to Controls at 6-month follow-up (p=0.058). Parental BMI was also significantly reduced in FIT as compared to Controls at 12-weeks (p=.05). **Conclusions:** These findings indicate that medical and graduate students can potentially translate weight management programs to high need communities while receiving valuable health promotion training.

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Paper Session 32

1:15 PM-1:30 PM

VARIATIONS IN THE EFFECTS OF STRUCTURED PROGRAMMING FOR PREVENTING YOUTH SUMMERTIME WEIGHT GAIN

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Research shows that youth gain weight twice as fast during the summer months, but the impact of structured programming during this time among school-age children is unknown. This study examined how different types of summer programming affect weight outcomes among school-age youth and consider whether these relations varied by gender, ethnicity, and SES.

Participants were part of the NICHD Study of Early Child Care and Youth Development, a prospective longitudinal study conducted at ten research sites across the United States. Children ($n = 1352$) were studied from birth until the end of high school. The current study assessed summer activities and weight status at Grades 3, 4, 5 and 6. The analysis sample consists of children with non-missing values for BMI percentile at Grade 5 or 6 ($n=948$; 50.8% female, 13.1% Black, 6% other).

Summer activities were measured using mother's report of their child's frequency of participation in activities while out of school for the summer. Activities were classified into one of four categories: 1) physical (sports, recreation/community center); 2) activity focused (arts, club/youth group, enrichment activities, day camp); 3) sedentary (library, read, computer); and 4) unsupervised time with friends. Intensity of participation in each category was the largest standardized value of days per month or weeks over summer break. BMI percentiles by gender and age were calculated using weight and height measurements collected annually by trained research personnel.

Multivariate multinomial logistic regressions using robust standard errors suggested no main effects of summer activities on weight status at grade 5 or 6 when controlling for prior weight status and covariates (e.g., child's gender, race, maternal education, marital status, income-to-needs ratio, and home environment characteristics). There was, however, an interaction between income-to-needs ratio and unsupervised time, suggesting that more time spent in unsupervised activities over the summer months was associated with a higher probability of being obese for low- and middle-income children. For high-income children, more time spent in unsupervised activities over the summer months was associated with a lower probability of being obese. Interactions with gender and race were not significant. The public health relevance of summer activities is suggested by these findings.

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Paper Session 33

1:00 PM-1:15 PM

HOW SHOULD EXPECTATIONS AND VALUES BE COMBINED TO PREDICT HEALTH-RELATED OUTCOMES?

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Background. Expectancy-Value (EV) models comprise a significant component of psychological and behavioral research, and they are among the most prominent approaches to predicting health-related outcomes. For almost six decades, however, EV models have assumed that 1) expectancies and values for health-related outcomes should be combined multiplicatively, and 2) outcome-related values should be measured using a bipolar scale. While intuitively logical, these assumptions have yet to be tested empirically. **Method.** Two methods of aggregation (additive vs. multiplicative) were combined with two types of scaling (bipolar vs. unipolar) in a 2x2 factorial design to predict dietary intentions and behaviors using predictors from the Theory of Planned Behavior (TPB), including two EV factors (attitudes and social norms), and perceived behavioral control. Participants ($n = 68$) included 78% females, 75% white, with a mean age of 20.1 years. **Results.** EV factors were better predictors of participants' intentions to limit junk-food consumption when they were combined multiplicatively. Attitudes predicted junk-food consumption intentions best when multiplicative aggregation was combined with bipolar scaling, while norms were most predictive with multiplicative aggregation and a unipolar scale. Neither aggregation nor scaling affected the ability of EV factors to predict fruit & vegetable consumption intentions, which were predicted solely by perceived behavioral control. Behavioral intentions significantly predicted consumption of both junk-food and fruits & vegetables across all models. **Conclusions.** These results support the use of multiplicative aggregation in EV models of dietary intentions, and the link between these intentions and reported behavior. The predictive utility of unipolar vs. bipolar scaling appears to differ across EV factors, while perceived behavioral control was the most consistent predictor of dietary intentions. It would be useful for future research to identify how expectancies and values are cognitively integrated to determine health-related attitudes, norms, intentions and behaviors.

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Paper Session 33

12:30 PM-12:45 PM

IMPLICIT THEORIES OF SMOKING AND ASSOCIATION WITH CURRENT SMOKING STATUS

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Background: Studies have demonstrated that peoples' implicit theories- their beliefs about whether a certain personal characteristic is malleable versus unchangeable- are associated with their reactions to certain tasks and behaviors. Implicit theories of smoking (ITS) refer to people's beliefs about whether smoking behavior is something that is changeable (incremental belief) or fixed (entity belief). **Purpose:** The present study examines ITS and its association with smoking behavior in a nationally representative sample of US adults. **Methods:** The Health Information National Trends Survey is a national survey of the US adult population. Data used in this analysis were collected from October 2012 through November 2014 ($N=7,307$) by mailed questionnaire and analyzed in 2015. Weighted bivariate chi-square analyses were used to assess associations among ITS and sociodemographics and smoking status. A weighted multinomial logistic regression was conducted where ITS was regressed on smoking status, controlling for sociodemographic variables. **Results:** The majority (83%) of US adults hold incremental beliefs about smoking behavior, believing that smoking behavior is more changeable than fixed. Compared to those who hold an incremental belief about smoking, people who hold an entity belief are significantly more likely to be current than never smokers. Compared to those who hold incremental beliefs, people who hold an entity belief about smoking are significantly less likely to be former rather than never smokers. Entity beliefs about smoking are more common among those who are current smokers, older, less educated, lower income, and racial minorities. **Conclusions:** The current results show that ITS are associated with smoking status. Among former smokers, 90% endorsed an incremental belief about smoking compared to 70% of current smokers. Interventions that have shown success in behavior change in other domains (e.g., weight, personality) have helped individuals develop incremental theories by consistently delivering the message that the target characteristic is changeable. Current findings may be used to inform campaigns to motivate and sustain smoking cessation among current smokers through cultivating incremental beliefs.

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Paper Session 33

12:45 PM-1:00 PM

IMPLICIT THEORIES ABOUT BODY WEIGHT IN THE CONTEXT OF GENETIC AND BEHAVIORAL CAUSAL EXPLANATIONS FOR OVERWEIGHT

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Objective: People hold different implicit theories about aspects of the self, including health-relevant factors like body weight. Incremental theorists believe a characteristic is malleable whereas entity theorists believe it is fixed. Implicit theories have important implications for self-regulation and goal-setting. We examined how implicit theories about weight predict responses to information about causes of one's overweight, and how implicit theories change in response to that information. We also explored the role of spontaneous self-affirmation (SSA; i.e., tendencies to reflect on one's strengths and values when anxious or threatened) in these processes. **Method:** In an experimental study, 198 overweight women were given either genetic or behavioral causal information related to weight. Participants completed surveys assessing implicit theories about weight before (Time 1) and after (Time 2) this manipulation. SSA was assessed at Time 1. Self-efficacy and motivation to achieve a healthy weight and intentions to change diet and increase exercise were assessed at Time 2. **Results:** Entity beliefs about weight were infrequently endorsed (15.2%). Among participants given behavioral information about weight, holding greater entity theories at Time 1 predicted lower intentions to change diet at Time 2 (with no effects on self-efficacy or motivation to achieve a healthy weight, or intentions to exercise); among those given genetic information, implicit theories were not associated with intentions to diet. A second set of analyses showed that among participants given genetic information, those higher in SSA were more likely to believe weight to be malleable at Time 2; among those given behavioral information, SSA was not associated with implicit theories at Time 2. **Conclusion:** Entity theories who were told that behavior causes overweight subsequently reported lower intentions to change their diet. Further, SSA may reduce the likelihood that being told that genetics cause overweight will lead to adopting these potentially demotivating entity theories. Promoting incremental theories about weight and inducing self-affirmation may lead to beneficial health consequences in the context of genetic information.

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Paper Session 33

1:15 PM-1:30 PM

CURVILINEAR/THRESHOLD MODEL OF BENEFIT/BARRIER-BEHAVIOR RELATIONS: IMPROVED MODEL FIT AND CONCEPTUAL COHERENCE

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BACKGROUND: Health decision-making theories typically assume a linear relation between decision-making constructs (e.g., benefits) and health behavior outcomes. This assumption places two key constraints. First, the same relation between a change in construct and change in behavior outcome is assumed regardless of the relative magnitude of the decision-making construct (i.e., regression slope for a change from 1-2 benefits is the same as for 6-7 benefits) and the same relation between construct and outcome is assumed to be true for initiating behavior as for increasing/decreasing the amount of an existing behavior. An alternative model positing a curvilinear/threshold relation assumes that a certain level of the decision-making construct must be present before initiation of behavior occurs; there is a threshold point at which the construct is sufficient to motivation behavioral initiation and only past that threshold point do changes in the construct lead to changes in behavior. This study tests key predictions of the curvilinear/threshold model. **METHODS:** In a paper/pencil in-person survey, community adults ($N=446$) reported perceived benefits of and barriers to physical activity and reported current physical activity behavior. To test the threshold hypothesis, the variance accounted for by linear versus quadratic regression models was examined as was the nature of any observed quadratic relations. **RESULTS:** For barriers, the quadratic model significantly improved model fit over the linear model; $F(1,439)=4.01$, $p < 0.05$. Consistent with the threshold hypothesis, very little behavior shifting occurred at lower levels of barriers; the rate of observed decline in behavior per unit change in barriers became more rapid as the number of barriers became larger. Similarly, for benefits, the rate of increase in behavior per unit change in benefits became greater as the number of benefits increased; improved model fit was marginally significant; $F(1,439)=3.28$, $p=0.07$. **CONCLUSION:** The threshold model has implications for conceptualizing the interrelation of constructs and behaviors and for interventions. The model suggests either selective targeting to individuals based on their prior perceptions of constructs or consideration of the needed “dose” of intervention to lead to behavior change.

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Paper Session 34

12:30 PM-12:45 PM

SKIN CANCER PREVENTION IN ADOLESCENTS: EFFECTS OF AN ULTRAVIOLET (UV) PHOTOGRAPHY INTERVENTION ON SOCIO-COGNITIVE FACTORS

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Skin cancer risk behaviors are prevalent in adolescents. UV photography has increased sun protection behavior and decreased sunbathing and indoor tanning intentions in adults. Very little is known about UV photography's effects in adolescents. We examined sun protection, skin cancer risk behaviors and relevant socio-cognitive factors in adolescents, and tested the immediate effects of UV photography on socio-cognitive factors. Participants ($N=98$) were 7th or 8th-grade students. In an RCT, we randomized 4 schools to intervention (UV photography [viewing standard and UV light facial photographs side-by-side for comparison] and brief education) or comparison (brief education only). At baseline, 34% of participants routinely used sunscreen, 64% wore a shirt with sleeves that covered the shoulders, 8% wore a hat and 15% stayed in the shade. Most (79%) reported one or more sunburns in the past year; 27% reported sunbathing sometimes or more often. One participant reported using an indoor tanning device. Overall, on 4-point scales, participants reported moderate sun protection intentions (mean=2.8, SD=.45) and negative tanning outcome expectations (mean=2.05, SD=.69). They did not perceive strong sociocultural influences to tan (mean=1.7, SD=.53) and perceived themselves to be somewhat unlikely to develop skin cancer (mean=1.97, SD=.71). Immediately post-intervention, there was a significant, positive intervention effect on intention to wear a hat (OR=2.28; 95% CI: 1.006, 5.169; $p < .05$). This effect was no longer significant after adjusting for race and ethnicity. There was a significant intervention effect on tanning outcome expectations in the desired direction ($b=-.28$, SE=.12, $p < .05$), after adjusting for race and ethnicity. Results highlight the importance of intervening on adolescents' skin cancer risk behaviors. Findings suggest that UV photography may be an effective intervention to influence socio-cognitive factors theorized to promote skin cancer prevention. Additional study is needed, including examination of behavioral effects.

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Paper Session 34

12:45 PM-1:00 PM

PARENT AND CHILD CHARACTERISTICS ASSOCIATED WITH CHILD SUNBURN AND SUN PROTECTION AMONG U.S. HISPANICS

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Skin cancer incidence has been increasing among United States (U.S.) Hispanics over several decades, and the post-diagnosis outcomes are often worse for Hispanics than for non-Hispanic whites. Sunburn and sun exposure during childhood are known risk factors for the later development of skin cancer. Parents are influential in children's health preventive behaviors, however little is known about parental factors associated with children's skin cancer-related behaviors in the U.S. Hispanic population. The objective of this study was to examine parental and child correlates of sunburns, sun protection, and sunbathing among children of Hispanic parents. This survey study included a population-based sample of 360 U.S. Hispanic parents (44.8% male) who had a child aged 14 years or younger. Measures included parental reports of parent and child demographic characteristics and skin cancer-related variables. Approximately 28% of children experienced at least one sunburn in the past year. Sunburns were most prevalent among children who were older ($p < .001$), had fairer skin ($p = .005$), and those with past year parental sunburn ($p = .021$). Use of sun protective clothing was higher among children who were younger ($p = .001$), and whose parents had a lower education level ($p = .031$) and greater sun protective clothing use ($p = .037$) and past year parental sunbathing ($p = .006$). Factors not significant in the multivariable regression models included parental age, gender, acculturation, skin cancer knowledge, or having a spouse who was Hispanic/Latino. There is a need to improve the skin cancer-related behaviors of U.S. Hispanic children. Child sunburn, sun protective clothing use and sunbathing were associated with the corresponding behaviors of their parents. Hispanic parents should be included in interventions targeting their children's skin cancer-related behaviors.

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Paper Session 34

1:00 PM-1:15 PM

HELPING CHILDREN BE SAFE OUTDOORS WITH SUN PROTECTION

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Background: Emphasizing sun protective behaviors among 2-6 years old children may minimize sun damage and foster lifelong sun-protective behaviors that will reduce the likelihood of developing melanoma. **Methods:** During the summer of 2015, caregivers of 2-6 year old children were recruited on-site by research assistants at two Chicago pediatric clinics. Participants were randomly assigned to 1) receive a 12 page read-along book, a swim shirt, and weekly text message reminders, or 2) receive the information usually provided, controls. Outcomes were caregiver-reported use of sun protection by the child (seeking shade, wearing sun-protective clothing and sunscreen application), and duration of outdoor activities at baseline and 4 weeks. Mixed ANOVAs were performed to test the intervention effects on the outcome measures. **Results:** Of 349 eligible subjects, 300 caregivers and children participated (86.9% participation) with follow-up completed by 93.3%. Participants were 70.8% white, 27.0% Hispanic, 12.6% black, and 9.6% Asian. There was significant interactions of time X group (mixed ANOVA sunny day $F_{1,277}=10.220$; $p < .01$; $\eta^2 = 0.036$; cloudy day $F_{1,278}=8.054$; $p < .01$; $\eta^2 = 0.028$). Post hoc Tukey's HSD revealed the intervention group significantly increased their sun protective behaviors on sunny days (mean difference between follow-up and baseline = +0.319) and the control group decreased their behaviors (mean difference = -0.72). Similarly on cloudy days, the intervention group significantly increased the sun protection behaviors (mean difference between baseline and follow-up = 0.266) and the control group significantly decreased their behaviors (mean difference = -0.782). **Conclusion:** Implementation of sun protection behavior may be engendered by empowering caregivers to choose among sun protection strategies and having them tailor them to the needs of their family. Future studies should examine if sun protection can be reinforced by repetitive reading of the book with the child. The read-along book may be distributed in pediatricians' offices as a way of providing age-appropriate anticipatory guidance.

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Paper Session 34

1:15 PM-1:30 PM

ADAPTING SUNSAFE: A SKIN CANCER PREVENTION INTERVENTION FOR USE WITH MULTIETHNIC ADOLESCENTS

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Background: Although preventable, incidence rates for skin cancer have increased every decade in the U.S., since the 1990's. Overexposure to ultraviolet radiation (UVR) is a primary risk factor. Avoiding intermittent high-intensity sun exposures, sunburns, and indoor tanning during adolescence can reduce lifetime risk for skin cancers by 50 - 80%. However, changes in social norms, risk-taking, and the desire for sexual appeal affect adolescent UVR exposures. Few interventions have addressed ways to sustain UVR protection practices, established in childhood, among high school students whose health behaviors are no longer under the purview of parents or caretakers. Additionally, inaccurate risk perceptions by nonwhite adolescents drive diminished prevention practices in this group. Our study highlights the adaption, pilot implementation and preliminary effectiveness of a skin cancer prevention intervention designed for multiethnic high school students. **Methods:** We recruited 208 multiethnic high school students (51.6 % Asian, 30.4% Native Hawaiian/Pacific Islander, 8.4% White, 3.5 % Hispanic, 2.7 % Black), ages 15-17 from Aiea High School in Honolulu to pilot test an adapted intervention, SunSafe in the Middle School Years. We used qualitative interviews with teachers, parents and students to inform the adaptation. Changes in students' sun protection knowledge, attitudes and self-reported behaviors were measured using a standardized 18-item survey. A field observation instrument, the Systematic Observation of Sun Protection Factors (SOSPF) was used to objectively assess students' aggregate sun protection behaviors. **Results:** After delivery of the pilot intervention we found significant improvement in 15 of 18 survey items ($p < 0.05$). Items measuring attitudes and intended tanning behavior did not show improvement. Six observers using SOSPF reliably measured students' sun protection behaviors at school including use of hats, sunglasses, long sleeves, lower body coverage and shade ($ICC > .77$). **Conclusion:** We uncovered a general lack of knowledge among multiethnic high school students about UVR exposure, tanning and lifetime skin cancer risk. We found that multiethnic students' tanning attitudes may be influenced by self-perceptions regarding complexion. These students were also willing to modify their sun protection behaviors once informed about their skin cancer risk

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Paper Session 35

12:45 PM-1:00 PM

USING THE THEORETICAL DOMAINS FRAMEWORK & HEALTH ACTION PROCESS APPROACH TO IDENTIFY MEDICATION ADHERENCE DETERMINANTS POSTMI

Justin Presseau, Ph.D.¹, J.D. Schwalm, MD, FRCPC², Jeremy M. Grimshaw, MBChB, PhD, FRCGP, FCAHS¹, Holly O. Wittman, PhD³, Madhu K. Natarajan, MD, FRCPC, FACC², Stefanie Linklater, M.Sc.¹, Katrina J. Sullivan, M.Sc.¹, Noah M. Ivers, MD, PhD⁴

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Background: Appropriate medication post-myocardial infarction (MI) significantly decreases mortality, yet adherence to medication in secondary prevention post-MI decreases over time. Development of adherence behaviour change interventions can be informed by identifying constructs to target through the use of a particular theory or a broader theoretical framework; but rarely are both approaches used. We conducted two studies to compare the utility of a theory-based and a theoretical framework-based approach for identifying modifiable factors to target for a medication adherence intervention post-MI. **Method:** Two studies were conducted with patients 0-2 weeks, 3-12 weeks, 13-24 weeks, or 25-36 weeks post-MI. **Study 1:** Semi-structured interviews based on the Theoretical Domains Framework were conducted with 24 people. Interviews were coded to each domain in the framework, and key themes within domains were identified. **Study 2:** Structured telephone questionnaires were conducted with 201 patients to assess constructs from the Health Action Process Approach, which were used to predict intention to take medication and medication adherence (Morisky Medication Adherence Scale - MMAS-8 scores). **Results:** **Study 1:** Key modifiable barriers and facilitators to medication adherence identified using the Theoretical Domains Framework included: Beliefs about Consequences, Memory/Attention/Decision Processes, Behavioural Regulation, Social Influence, and Social Identity. **Study 2:** 64%, 59%, 42% and 58% of participants reported high adherence at 0-2 weeks, 3-12 weeks, 13-24 weeks, and 25-36 weeks respectively. Social Support and Action Planning predicted adherence at all times post-MI, with the relationship between Action Planning and adherence decreasing over time. The link between Intention and adherence operated through Action Planning. **Conclusion:** Two behavioural theory-based approaches helped to identify modifiable factors, which could be targeted by behaviour change techniques that improve motivation as well as support translating motivation into action to improve medication adherence in people post-MI. Intervention development for other health behaviours may similarly benefit from this multi-theory, multi-method approach.

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MERITORIOUS AWARD WINNER

Paper Session 35 12:30 PM-12:45 PM

ASSESSING MEDIATOR EFFECTS FROM AN RCT EVALUATING NOVEL INTERVENTIONS FOR ANTIRETROVIRAL MEDICATION ADHERENCE

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Theoretically based intervention studies allow researchers to advance science by exploring the role of theoretical mediators in addition to intervention effects on outcome. Project MOTIV8 was a theoretically-based trial that assessed whether motivational interviewing based CBT (MI-CBT) with modified directly observed therapy (mDOT) was more effective than MI-CBT counseling alone or standard care (SC) for increasing adherence. Hypothesized mediators were based on the Information-Motivation-Behavioral Skills (IMB) Model (i.e., treatment was expected to impact participants' adherence information, motivation, and behavioral skills). The primary results revealed that the interaction of the combined MI-CBT/mDOT group had its greatest effect at week 12, and then adherence rates declined more rapidly than the rates of the SC or MI-CBT groups as the intervention concluded. Baseline, 24, and 48 week data from 204 patients (mean age 40 years, 76% male, 57% African American) were used in structural equation models to determine which mediator variables were impacted by treatment and which predicted adherence. Results revealed that mDOT significantly decreased participants' adherence information ($b = -0.31$, $SE = 0.11$, $\beta = -0.40$, $p < .01$) and increased adherence motivation at the end of treatment ($b = 0.78$, $SE = 0.27$, $\beta = 0.26$, $p < .01$). MI-CBT had no significant effect on any of the IMB constructs. Additionally, hypothesized mediators had no effect on adherence except that motivation had a significant positive effect on adherence at the 6-month follow-up. These findings provide insights into the unexpected main outcome findings and suggest mDOT may have negative effects on adherence by reducing patient's knowledge about adherence, perhaps due to overreliance on the support they received.

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Paper Session 35

1:00 PM-1:15 PM

ADHERENCE PROFILES ARE ASSOCIATED WITH DIFFERENTIAL RESPONSES TO A MC INTERVENTION FOR MEDICATION ADHERENCE IN ASTHMA PATIENTS

Anda I. Dragomir, MSc¹, Simon Bacon, PhD², Gregory Moullec, PhD³, Lucie Blais, PhD⁴, Catherine Laurin, PhD⁵, Kim L. Lavoie, PhD⁶¹Hôpital du Sacré-Coeur de Montréal, Montreal, PQ, Canada; ²Hôpital du Sacré-Coeur de Montréal & Concordia University, Montreal, PQ, Canada; ³Research Center - Hôpital du Sacré-Coeur de Montréal, Montreal, PQ, Canada; ⁴Université de Montréal, Montreal, PQ, Canada; ⁵Ordre des psychologues du Québec, Montreal, PQ, Canada; ⁶University of Quebec at Montreal (UQAM), Montreal, PQ, Canada

Asthma control relies heavily upon daily adherence to controller medication, yet adherence to inhaled corticosteroids (ICS) has been shown to be as low as 32% in asthmatics. The purpose of this pilot RCT was to assess the efficacy of a brief intervention using motivational communication (MC), on ICS adherence in adult asthmatics as a function of baseline adherence profile. Methods: 54 poorly controlled (M [SD] ACQ = 1.91 [1.01]) asthmatics (M [SD] = 50.6 [15.7] years, 61% women) were randomized to an MC (n=26) or control group (n=28). The MC intervention consisted of 3-5 30 min sessions delivered by a trained clinical psychologist. Participants completed assessments at baseline and at 6- and 12-month follow-ups. Participants' pharmacy records were used to calculate their medication possession ratio to obtain an objective measure of adherence. Intention-to-treat analyses were conducted with missing data imputed using standard methods. Results: There was a significant group by baseline adherence levels interaction ($F=3.75$, $p=.018$) for 6 and 12-month adherence. Defining baseline adherence as: A-no adherence (M [range] baseline adherence = 0 [0-0]%), B-low adherence (10 [1-16]%), C-medium adherence (30 [18-33]%), and D-high adherence (64 [35-99]%), we found that those in the two lowest baseline adherence groups (i.e., A and B) showed the greatest improvements in adherence as a result of the intervention (% change in adherence at 12-months: $\Delta A = +21.1\%$, $\Delta B = +21.7\%$) relative to those in the two highest baseline adherence groups ($\Delta C = +4.8\%$, $\Delta D = -11.0\%$; $p < .05$). Conclusion: Results suggest that MC may be particularly effective in improving ICS adherence among asthmatics with the poorest adherence levels, with patients filling an extra 2-3 canisters per year, and may actually be counter-productive in those with good adherence at baseline. Thus MC interventions should be targeted at patients with low adherence to ICS for optimal benefit. Clinical Implications: Our findings lend support for increased use of motivational approaches by healthcare professionals as a means to optimize medication adherence. Given that asthma related mortality decreases by 21% with each additional canister of ICS taken per year, MC may also significantly improve health outcomes.

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Paper Session 35

1:15 PM-1:30 PM

ADHERENCE TO ENDOCRINE THERAPIES AMONG HISPANIC BREAST CANCER SURVIVORS: A QUALITATIVE ANALYSIS

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Background: Among Hispanics, the largest and fastest growing ethnic minority group in the United States, cancer is the leading cause of death. Furthermore, breast cancer is also the leading cause of cancer-related death for Hispanic women. Five years of adjuvant endocrine therapy (ET) reduces the risk of breast cancer recurrences by 50%, and the risk of breast cancer mortality by 28% in women with early stage breast cancer who are hormone-receptor positive and non-adherence to ET is a documented concern. Given that adherence to ET for hormone-receptor positive breast cancers (approximately 75% of breast cancers are hormone-receptor positive) is an important determinant of breast cancer recurrence and mortality, identifying barriers and facilitators to adherence to ET is a critical first step towards developing targeted, culturally relevant interventions to reduce disparities in breast cancer among Hispanic women. Methods: We conducted 31 semi-structured, hour-long interviews with English and Spanish-speaking Hispanic breast cancer survivors who were diagnosed with early stage breast cancer and prescribed ET within the past five years. Women were recruited from hospitals in the Chicago area and stratified by adherent or non-adherent to ET. Interviews were audio-recorded, transcribed, and forward and back translated by bilingual research staff. Transcripts were then coded for thematic content using a combination of inductive and deductive approaches by pairs of independent coders using NVivo software version 10.0. Results: Mean age of participants was 55 years and most participants were diagnosed with stage II breast cancer. More non-adherent than adherent participants discussed lack of knowledge or inaccurate knowledge regarding how to take ET (83% vs. 47%), lack of knowledge or inaccurate knowledge regarding the purpose of ET (75% vs. 32%), and low self-efficacy (83% vs. 37%). More adherent than non-adherent participants discussed not having or not being bothered by side effects of ET (95% vs. 67%), fear of recurrence (47% vs. 25%), cost of ET (95% vs. 67%), the importance of their religious beliefs (74% vs. 58%), and psychological benefits of taking ET (26% vs. 17%). Conclusions: Study findings have implications for clinicians recommending ET to Hispanic breast cancer survivors and for researchers seeking to develop culturally adapted interventions to improve adherence to ET among Hispanic survivors.

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Paper Session 36

12:30 PM-12:45 PM

USE, AND OPENNESS TO USE, MOBILE TECHNOLOGIES FOR HEALTH PURPOSES AMONG PEOPLE WITH AND WITHOUT A HISTORY OF MENTAL ILLNESS

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Objectives: As a first step towards understanding how mobile technologies can be used to improve engagement with behavioural interventions among people with mental illnesses (MI), this study aimed to generate novel information regarding past use, and openness to use, mobile technologies for health purposes among this population. **Method:** An online survey was launched in June 2015, recruiting via social media. The survey addressed: history of MI; use and interest in mobile technologies to access treatment or health information; and attitudes towards a range of features, and tools, used by mobile-based interventions. **Results:** To date 168 people have accessed the online survey, 70 have provided sufficient data and were eligible to participate (aged ≥ 18 years, living in Australia). Participants were aged 19 to 73 years (Mean=33.7, SD=15.5) and 44% reported a history of a MI. Most respondents (MI: 88%, No MI: 75%) had previously used their mobile phone to access information or treatment for a physical health issue. Most (80%) participants with a MI had also used their phone to access information or treatment for mental health issues (No MI: 38%). Fewer respondents (MI: 40%, No MI: 31%) had accessed information or treatment for alcohol or other drug (AOD) issues. Most participants reported they would consider accessing treatment via their mobile phone for physical health (MI: 76%, No MI: 78%), mental health (MI: 84%, No MI: 72%) and AOD (MI: 60%, No MI: 75%) issues. Most participants (72%-86%) reported an interest in features like setting goals, providing advice or information, tools to monitor behaviour and showing progress towards a goal. Problems or concerns were most frequently reported regarding features like sharing on social networks (42-48%) and sensing where you are, what you are doing or how you feel (33-50%). There were no significant differences between people with and without MI. **Conclusions:** This study generates some of the first information regarding use and openness to use mobile technologies, and attitudes towards specific features of mobile interventions, among people with and without MI. It is hoped that this information will inform the development of more effective and engaging mobile-based health behaviour change interventions.

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Paper Session 36

12:45 PM-1:00 PM

ACCEPTABILITY OF A MOBILE SENSING PLATFORM FOR COLLECTING AND SHARING BEHAVIORAL BIOMARKERS

Channah Rubin¹, Skyler Place, PhD¹, Danielle Blanch-Hartigan, PhD, MPH², Cristina Gorrostieta, PhD¹, Caroline Mead³, John Kane, B. Comm., M. Phil., Ph. D.¹, Joshua Feast, MBA¹, Ali Azarbayejani, PhD.¹¹Cogito Corporation, Boston, MA; ²Bentley University, Waltham, MA; ³Cogito Corporation, Somerville, MA

Background Early recognition of symptomatology for mental health disorders is crucial for individuals to receive timely and adequate mental health resources. Mobile sensing platforms enable the identification and tracking of behavioral biomarkers from digital breadcrumbs, passively collected on an individual's mobile device. Mobile sensing platforms have tremendous potential to aid in recognizing and treating symptoms of mental illness; however, feasibility and acceptability to different patient populations has not been fully examined. **Method** 73 participants who reported at least one symptom of PTSD or depression (67% male, 48% NHW, 33% Veteran status) completed a 12-week field trial of a Cogito smartphone application and mobile sensing platform used to passively collect, transfer and analyze raw behavioral data to predict clinical symptomatology. Participants completed a close out survey that measured satisfaction, privacy concerns, and willingness to share data with a number of stakeholders, including medical researchers and the government. **Results** Adherence to study protocol was extremely high among participants (96%). Responses on a likert scale from 1 (not at all) to 5 (extremely) indicated participants found the mobile application easy to use (M = 3.60 SD = 1.28). They reported that using the application led to life improvements (M = 3.38 SD = 1.30) using a scale from 1 (didn't help) to 5 (helped me a lot). Participants reported a moderate comfort with sharing both individual (M = 2.49 SD = .90) and anonymized data (M = 3.01 SD = 1.22), 5 indicating extreme comfort. For individualized data, participants were comfortable with sharing their personal data with primary care physicians, mental health providers, and medical researchers. Differences by veteran status and other demographic characteristics are discussed. **Conclusions and Relevance** The mobile sensing platform was well-received by participants, who reported high levels of comfort in sharing the passively collected behavioral data, especially with providers. The innovative HIPAA-compliant data security system on this platform may have played a role in high levels of participant use and comfort.

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Paper Session 36

1:00 PM-1:15 PM

IMPROVING WEIGHT IN PEOPLE WITH SERIOUS MENTAL ILLNESS: THE EFFECTIVENESS OF COMPUTERIZED WEIGHT SERVICES WITH PEER COACHES

Alexander S. Young, MD, MSHS¹, Amy N. Cohen, PhD¹, Richard Goldberg, PhD², Julie Kreyenbuhl, PharmD, PhD², Fiona Whelan, MS³¹VA and UCLA, Los Angeles, CA; ²VA & University of Maryland School of Medicine, Baltimore, MD; ³UCLA, Los Angeles, CA

Objectives: People with serious mental illness have high rates of obesity and related medical problems, and die years prematurely, most commonly from cardiovascular disease. Guidelines recommend specialized, in-person psychoeducational interventions, and these result in weight loss in efficacy studies with motivated patients. In usual practice, these interventions are rarely provided, and patient retention is low. Barriers include limitations with patient cognition and motivation, and insufficient clinician resources. We studied whether barriers could be addressed with computerized provision of diet and exercise education and decision support, combined with motivation from peer coaches. **Methods:** Randomized, controlled trial with overweight patients with serious mental illness. 276 patients were recruited from Veterans Affairs and county mental health clinics. Patients were randomized to 1) online weight management with peer coaching, 2) in-person clinician-led weight services, or 3) care as usual. Online weight management included 30 computerized modules plus weekly telephonic peer coaching. The computer provided audio and text-based education, video, pedometer tracking, goal setting, homework, diet plans, and quizzes. Coaching was delivered by individuals with lived experience with mental illness using motivational interviewing. A mixed measures repeated model predicted Body Mass Index (BMI) at 6 months. **Results:** In obese patients, there was a significant group by time interaction ($F=3.4$, $p=.03$). The online and peer coaching group had weight loss averaging 0.8 ± 0.2 BMI points (5 pounds; $p < .01$). No change was seen in care as usual ($p=.42$) or in-person services ($p=.57$). No effect was seen in patients with BMI < 30 . 21% of patients completed the on-line program compared to 0% completing all in-person groups ($\chi^2=19.7$; $p < .0001$). **Conclusions:** On-line weight management with peer supports is well received, and can provide educational content and decision support that is tailored, convenient, and patient-centered. It produces weight loss, enhances motivation, and may have greater effectiveness than clinician-led services.

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Paper Session 36

1:15 PM-1:30 PM

CARDIOVASCULAR RISK FACTORS IN PREVIOUSLY HOMELESS ADULTS: CHARACTERISTICS AND PARTICIPANT PREFERENCES IN THE M.CHAT PROGRAM

Heather Kitzman-Ulrich, PhD¹, Alexis Rendon, MPH², Subhash Aryal, PhD³, Emily Spence-Almaguer, PhD², Scott Walters, PhD⁴¹University of North Texas Health Science Center, School of Public Health, Fort Worth, TX; ²University of North Texas Health Science Center, Fort Worth, TX; ³Department of Biostatistics and Epidemiology, UNT Health Science Center, Fort Worth, TX; ⁴UNT Health Science Center, Ft. Worth, TX

Background/Objectives: Homeless adults experience high rates of premature mortality due to cardiovascular disease (CVD) and are high utilizers of the healthcare system. This study evaluated CVD risk factors including body mass index (BMI) and diet, and participant preferences during program implementation of m.chat (Mobile Community Health Assistance for Tenants), a technology-assisted health coaching program for previously homeless adults residing in supportive housing. **Methods:** At baseline, trained staff collected measures of height and weight, and dietary intake using a reliable and valid survey. Thereafter, participants met with a health coach monthly, who used a computer software program to facilitate a discussion of health goals and action items related to diet, exercise, medication compliance, social support, recreation, and substance use. **Results:** Baseline data was collected on 284 participants (51% female; 51% African American, 42% Caucasian). Mean BMI was 31.6 (SD=8.1), with females slightly heavier (mean BMI=34.5±8.2) than males (mean BMI=28.5±6.6). 77.9% of participants were overweight or obese, and 2.5% were underweight. At baseline, 43.8% of participants consumed fast food ≥ 4 times weekly, 62% consumed 1 or more sweetened drinks daily, and few consumed recommended daily amounts of fruits and vegetables (8.0% and 5.6%, respectively). Diet and exercise goals were common; 58% of participants chose dietary and 54% chose physical activity goals. Further, when given access to a flexible wellness account, overweight/obese participants spent a greater percentage of their account on exercise items rather than other incentive options (40% compared to 32% for household items, 10% for leisure items). **Conclusions:** Preliminary m.chat data indicate that elevated BMI and unhealthy dietary intake are common risk factors in this population. Previously homeless adults residing in supportive housing are motivated to address lifestyle behaviors indicating a need to implement effective health promotion programs in this community.

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Paper Session 37

12:30 PM-12:45 PM

A MOBILE INTERVENTION DEVELOPMENT STUDY TO IMPROVE SYMPTOMS OF DISTRESS IN CAREGIVERS OF PATIENTS RECEIVING AUTOLOGOUS-HCST

Nicole Amoyal PhD, PhD¹, Mark L. Laudenslager, PhD², Kristin Kilbourn, Ph.D, MPH³, Teresa Simoneau, Ph.D.⁴, Jean Kutner, MD, MSPH⁵¹University of Colorado Anschutz Medical Campus, Denver, CO; ²University of Colorado Denver, Anschutz Medical Campus, Aurora, CO; ³University of Colorado Denver, Denver, CO; ⁴VA Eastern Colorado Healthcare System, Aurora, CO; ⁵University of Colorado School of Medicine, Aurora, CO

We previously demonstrated the efficacy of a brief, in-person, one-on-one stress management intervention to reduce distress in caregivers of patients receiving allogeneic hematopoietic stem cell transplants (allo-HCST) in a randomized controlled trial. The aim of the current study was to adapt this program to a mobilized intervention (e.g., iPad, iPhone, computer-based) for self-delivery, ideally to enhance dissemination and caregiver access to stress management tools given the many barriers to caregiver self-care. Another aim of this study was to examine the program's usability in a different sample of similarly distressed caregivers; caregivers of patients receiving autologous stem cell transplants (auto-HCST). The PEP PAL program consists of 10 sessions; Introduction to Stress, Mindfulness and Gratitude, How Thoughts Can Lead to Stress, Coping with Stress, Strategies for Maintaining Energy and Stamina, Coping with Uncertainty, Managing Changing Relationships and Communication, Getting Support, Intimacy, and Advanced Care Planning. Development of the PEP PAL proceeded in two phases. First, two focus groups (N=10) were conducted to gain initial feedback of a preliminary mock-up session and to provide qualitative data regarding intervention acceptability and usability. Then, qualitative feedback was reviewed for key themes and discussed with an expert group of clinical researchers and integrated into the full-version PEP PAL mobilized program. Once the full version PEP PAL was complete, individual interviews were conducted with (N=10) auto-HCST caregivers to gather qualitative feedback about content, look and feel, acceptability, and feasibility. Interviews were transcribed, coded, and analyzed for themes. Qualitative feedback gathered from interviews regarding PEP PAL's acceptability and feasibility will be discussed. The multidisciplinary expert study team used caregiver feedback to adapt the PEP PAL to best meet the needs of this population to enhance dissemination, engagement, acceptability, and usability. Future directions for development and dissemination will be discussed. Funded in part by NIA T32AG044296 and PCORI CE1304-6208.

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Paper Session 37

12:45 PM-1:00 PM

DYADIC STUDY OF CANCER PATIENTS' AND CAREGIVERS' DEPRESSIVE SYMPTOMS, INFLAMMATION, AND NEUROENDOCRINE REGULATION

Kelly M. Shaffer, M.S.¹, Armando Mendez, Ph.D.², Maria M. Llabre, Ph.D.³, Michael Antoni, PhD⁴, Neil Schneiderman, Ph.D.³, Stephany Giraldo, MPH⁵, Youngmee Kim, Ph.D.³¹Massachusetts General Hospital, Department of Psychiatry, Boston, MA; ²University of Miami, Department of Psychology, Miami, FL; ³University of Miami, Department of Psychology, Coral Gables, FL; ⁴University of Miami, Coral Gables, FL; ⁵Nova Southeastern University, Coral Gables, FL

Cumulative evidence links psychological distress with increased inflammation and neuroendocrine dysregulation among both healthy persons and cancer patients. Recent studies suggest cancer patients' distress relates to their informal caregivers' poorer physical health, and vice versa. Yet unknown is to what extent patients' depressive symptoms may serve as a risk factor for their caregivers' stress biomarkers, and vice versa. This study addressed this question with newly diagnosed colorectal cancer patients and their family caregivers. Eighty-one dyads of colorectal cancer patients (age $M= 54.20$, 57% female; $M= 3.46$ months post-diagnosis) and their caregivers (age $M= 50.70$, 73% female) from a larger study were included in the current analyses. Distress was assessed with depressive symptoms (CES-D) and stress biomarkers with inflammation (interleukin-6 and C-reactive protein) and neuroendocrine regulation (salivary cortisol slope, computed from samples collected 3 times/day on 2 consecutive days). Both patients and caregivers reported elevated depressive symptoms, but comparable levels of stress biomarkers, compared with existing samples of cancer patients and caregivers of other chronic illnesses. Patients' and caregivers' depressive symptoms were unrelated to both their own and their partners' stress biomarkers, both in bivariate correlations and actor-partner interdependence modeling controlling for age, body mass index, gender, and patients' treatment status, and cancer stage ($ps > .12$). Lack of expected association between depressive symptoms and stress biomarkers may be attributable in part to cross-sectional data analysis limited to the acute treatment phase. At that time, patients' stress biomarkers were likely affected by tumor- and treatment-related factors, whereas caregivers' physiology may have not yet been impacted by the cancer experience. Future studies are warranted for examining longitudinal processes and additional psychosocial and lifestyle predictors of poor physical health among cancer patients and their caregivers.

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MERITORIOUS AWARD WINNER

Paper Session 37 1:00 PM-1:15 PM

CANCER PATIENTS' AND THEIR CAREGIVERS' STRESS BIOMARKERS ARE POSITIVELY RELATED AT THE EARLY PHASE OF SURVIVORSHIP

Kelly M. Shaffer, M.S.¹, Armando Mendez, Ph.D.², Maria M. Llabre, Ph.D.³, Michael Antoni, PhD⁴, Neil Schneiderman, Ph.D.³, Stephany Giraldo, MPH⁵, Youngmee Kim, Ph.D.³

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Cumulative evidence suggests that both cancer patients and their family caregivers develop chronic diseases earlier and more frequently than those not affected by cancer. While patients and caregivers report similar stress from the cancer experience, yet unknown is the extent to which the physiological manifestation of their stress is related. This study addressed these questions using interleukin [IL]-6, C-reactive protein [CRP], and cortisol slope as stress biomarkers.

Dyads ($N=81$) of colorectal cancer patients (age $M=54.20$, 57% female; $M=3.46$ months post-diagnosis) and their family caregivers (age $M=50.70$, 73% female) participated by providing demographic information and blood and saliva samples. Cortisol slope was calculated from 6 total saliva samples, taken 3/day on 2 consecutive days.

Patients had greater IL-6 than caregivers ($M_{pg/mL}=3.14$ and 1.83 , respectively; $t(44)=4.21$, $p<.001$). Patients and caregivers had comparable CRP ($M_{mg/L}=6.49$ and 3.60 ; $t(45)=1.83$, $p=.07$) and cortisol slopes ($M_{lg/dL/hour}=-0.09$ and -0.12 ; $t(72)=1.37$; $p=.17$). Patients' and their caregivers' CRP ($r=.31$, $p=.04$) and cortisol slope ($r=.31$, $p=.01$) values were positively associated, but IL-6 values were not associated ($r=.27$, $p=.07$). When controlling for age, BMI, sex, depressive symptoms, and patient treatment status and cancer stage, cortisol slope remained positively associated ($B=0.001$, $p=.03$), but not CRP ($B=0.01$, $p=.55$) or IL-6 ($B=0.05$, $p=.23$).

This study provides the first evidence of interdependence in cancer patients' and their caregivers' stress physiology during the acute treatment phase. Pre-existing vulnerabilities (e.g., socioeconomic status) and cancer-related stress (e.g., acute stress of diagnosis) may contribute as shared risk factors to the interdependence in stress biomarkers. Identifying shared risk factors for patients' and caregivers' inflammation and endocrine dysfunction will be critical to developing effective interventions addressing patient and caregiver physical health.

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CITATION AWARD WINNER

Paper Session 37 1:15 PM-1:30 PM

INTERRELATIONSHIPS AMONG ANXIETY AND DEPRESSION IN PATIENTS AND CAREGIVER DYADS WITH NEWLY DIAGNOSED METASTATIC CANCERS

Jamie M. Stagl, Ph.D.¹, Kelly M. Shaffer, M.S.², Ryan Nipp, M.D.¹, Joel Fishbein, B.A.¹, Areej El Jawahri, M.D.¹, William Pirl, M.D.¹, Vicki Jackson, M.D.¹, Elyse R. Park, Ph.D.¹, Jennifer Temel, M.D.¹, Joseph Greer, Ph.D.¹

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Patients with metastatic cancers often experience high physical and psychological symptom burden and short survival. Family caregivers are at risk for emotional distress and complicated bereavement. Although it is known that patient and caregiver distress are related in early stage cancer, less is known about the interrelationship of dyads' distress following newly diagnosed metastatic cancer.

Within 8 weeks of diagnosis of metastatic lung or non-colorectal gastrointestinal cancer, we enrolled 275 dyads in a randomized controlled trial of early palliative care integrated with standard oncology care, compared to standard oncology care alone. We used Actor-Partner Interdependence Modeling (APIM) to examine relationships between patient and caregiver anxiety and depressive symptoms on the HADS at baseline, controlling for demographic characteristics.

Compared to their partners, patients reported more depressive symptoms ($p=.002$) and caregivers reported more anxiety symptoms ($p<.001$). Patients' and caregivers' anxiety symptoms were positively associated, as were depressive symptoms ($r=.21$, $ps=.001$). APIM revealed that one's own anxiety symptoms were positively associated with own depressive symptoms equally for patients and caregivers (actor effect $\beta=.52$, $ps<.001$). We also observed a partner effect; one's own anxiety was positively associated with partner's depression, equally for patients and caregivers (partner effect $\beta=.08$, $ps=.014$). Results remained significant controlling for age, gender, and marital status.

In newly diagnosed metastatic cancer, caregivers may be more likely to struggle with anxiety and patients with depressive symptoms, relative to their partners. However, patients' and caregivers' anxiety was positively related to their own depression as well as the partner's depression, indicating that distress is interrelated among dyads facing newly diagnosed metastatic disease. Dyadic psychosocial interventions that have been used effectively among early-stage cancer may be warranted to ameliorate psychological distress and prevent mood disorders for patient-caregiver dyads coping with metastatic cancer.

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Symposium 52 1:45 PM-3:00 PM

RELIGION AND HEALTH

Gail Ironson, M.D., Ph.D.¹, Aurelie Lucette, MS², Crystal Park, Ph.D.³, Neal Krause, Ph.D.⁴

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Three papers will be presented and discussed in this symposium. All three converge on a central theme that deals with the relationship between religion/spirituality and health. The data for all three presentations come from the Landmark Spirituality and Health Survey, which is one of the largest nationally representative surveys to be devoted solely to the relationship between religion/spirituality and health. The paper by Krause examines the relationship between stressful life events, giving spiritual support, receiving spiritual support, and measured levels of cholesterol (i.e., LDL and triglycerides). Spiritual support is defined as assistance that is given with the explicit purpose of bolstering the religious beliefs and behaviors of the recipient. The data suggest that giving (but not receiving) spiritual support reduces the magnitude of the relationship between stress and cholesterol. The paper by Ironson focuses on the relationship between several key markers of religious involvement and an important measure of immune functioning - Interleukin-6 (IL6). The findings reveal that more frequent attendance at worship services is associated with lower IL6 levels. The paper by Lucette examines on the relationship between a range of religion/spirituality measures and depressive symptoms. The findings reveal that greater involvement in religion is associated with less depressive symptomatology. For example, greater religiously oriented hope (i.e., hope that is grounded in one's faith) is associated with fewer depressive symptoms. By focusing on biological as well as mental health outcomes and by relying on data from a large nationwide survey, the intent of this symposium is to add further support to the rapidly growing literature on religion/spirituality and health.

Symposium 52A

CHURCH ATTENDANCE IS ASSOCIATED WITH REDUCED STRESS EFFECTS ON CRP IN OLDER ADULTS

Dr. Gail Ironson, M.D., Ph.D.

Inflammation, often measured by C-Reactive Protein (CRP) is thought to be related to a number of debilitating illnesses as we age, including cardiovascular disease and diabetes. Stress has also been implicated in these processes. The purpose of this study was to examine potential protective effects of spirituality and religion in older adults who have experienced stressful events.

A subsample of 513 older adults (as defined by NIA, age>50) who were also above the median in number of stressors (>2) experienced in the 18 months prior to interview for the Landmark Survey on Spirituality and Health provided the sample for this analysis. (Note: Stress was significantly associated with lower CRP in the total sample of 1952 with CRP values, $p=.02$). The subsample was 74% white, 15% African American; 45% had 12th grade education or less; 40% male, 60% female. Religion variables included: Church attendance, religious meaning, and religious hope; spirituality variables included meaning, hope, and sense of peace. Control variables included: age, gender, education, and BMI.

Results: Of the 6 variables tested to represent spirituality and religiousness, only church attendance predicted significantly lower CRP (log) after controlling for covariates, and did so even above the other S/R variables (standardized Beta = $-.14$, $t=-2.55$, $p=.01$). Other effects due to covariates included: higher education associated with lower CRP (Beta = $-.10$; higher BMI and higher CRP, beta=.31), gender – women with higher CRP (Beta = $.22$). Conclusions: Religious service attendance may confer protection in older adults experiencing stressful events as it was significantly associated with lower CRP, an inflammatory marker associated with illness.

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Symposium 52B

SPIRITUALITY AND RELIGIOUSNESS ARE ASSOCIATED WITH REDUCED DEPRESSIVE SYMPTOMS IN INDIVIDUALS WITH MEDICAL CONDITIONS

Aurelie Lucette, MS

The increased prevalence of depressive symptoms in individuals coping with chronic medical problems has thoroughly been documented. Research is needed to examine the impact of spirituality/religiousness (S/R) in relation to chronic conditions and depression, to establish whether these variables, relevant for a significant number of individuals, can serve as protective factors. In the present study, we examined the impact of S/R variables on depressive symptoms in people who had a chronic medical condition. Self-report data from a subsample of 1,624 chronically ill participants (Mean age = 59.5; 40% male) who participated in a nationwide survey of spirituality and health were used for the analyses. Participants were asked to identify the chronic conditions they were currently experiencing; a total number was computed. Meaning, peace, and hope were used as measures of spirituality. Frequency of church attendance, religious meaning, and religious hope were used to measure religiousness. The Center for Epidemiologic Studies-Depression was used to assess depressive symptoms. Demographics (age, gender, ethnicity, and income) were used as covariates in the analyses. A series of hierarchical regression analyses were conducted with depressive symptoms as the dependent variable. Demographics were entered in Block 1, the number of chronic conditions in Block 2, and S/R variables were entered last in Block 3. Findings revealed that chronic conditions were consistently associated with more depressive symptoms. Greater spirituality and religiousness were significantly associated with fewer depressive symptoms (p -values < .05; R^2 change spirituality = $.14$; R^2 change religiousness = $.02$). Spirituality also added significant variance when controlling for religious variables. Thus, despite the detrimental impact of chronic conditions, maintaining a sense of spirituality or religiousness can benefit individuals' mental well-being. As such, patients could benefit from being offered resources that support their spiritual/religious practices and beliefs as they cope with chronic illness.

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Symposium 52C

PROVIDING SPIRITUAL SUPPORT TO OTHERS, STRESSFUL LIFE EVENTS, AND CHOLESTEROL

Neal Krause, Ph.D.

Providing Spiritual Support to Others, Stressful Life Events, and Cholesterol

Neal Krause

R. David Hayward

University of Michigan

Some intriguing research suggests that people who provide social support to others tend to live longer than individuals who do not help those who are in need. Some studies indicate that support providers benefit from helping others because it helps providers cope more effectively with the stressors that arise in their own lives. The purpose of the current study is to see if providing and receiving spiritual support at church is associated with lower levels of cholesterol when support providers and receivers are exposed to stressful life events. Spiritual support is defined as assistance that is given with the explicit purpose of bolstering the religious beliefs and behaviors of the recipient. Data for these analyses come from the Landmark Spirituality and Health Survey, which is one of the largest nationally representative studies that has been devoted solely to assessing the relationship between religion and health ($N=3,005$). A subsample comprised of study participants who provided blood samples for analysis and who attend church regularly was examined ($N=816$). An ordinary least squares multiple regression equation which contained the following independent variables was estimated: a range of demographic controls (e.g., age, sex, education), the frequency of moderate and strenuous exercise, the frequency of eating red meat, religious control measures, stressors encountered in the past 18 months, receiving spiritual support, and providing spiritual support. These indicators were regressed on a measure of cholesterol that was formed by subtracting HDL levels from total cholesterol, yielding a marker of "bad" cholesterol (i.e., LDL and triglycerides). The findings reveal that effects of stress on cholesterol are reduced for study participants who provide spiritual support to fellow church members ($p < .01$) but not for study participants who receive spiritual support from the people in their congregations. These results highlight the potential benefits of helping others and point to ways in which interventions might be devised to improve the health of those who are religiously inclined.

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Symposium 53

1:45 PM-3:00 PM

THE FUTURE OF PHYSICAL ACTIVITY SURVEILLANCE WITH ACCELEROMETERS

Hannah G. Lawman, PhD¹, Richard P. Troiano, PhD², James McClain, PhD³, James F. Sallis, PhD⁴, Loretta DiPietro, PhD, MPH⁵

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The technology of movement sensors has progressed rapidly in recent years leading to new and lower cost devices, more accessible software, and greater utilization of accelerometers in physical activity (PA) research. Novel high-frequency accelerometer data recording techniques have challenged the utility of traditional accelerometer approaches using count-based variables, the logistical capacity to manage big data, and the role of PA self-report instruments. The first talk in this symposium will explore the conceptual case for distinguishing PA as represented by accelerometer-based devices versus self-report. It will provide a background of the evolution of accelerometers and discuss the limitations of count-based approaches to PA surveillance. The second talk will provide an overview and current status of two national accelerometer-based surveillance systems and the challenges associated with the large-scale collection of high-frequency accelerometer data. The achievements, similarities, and differences with respect to accelerometer data will be explored in the context of 2011-2014 cycles of the National Health and Nutrition Examination Survey (NHANES, $n=14,000$) and the United Kingdom Biobank ($n=50,000$). The third talk in the symposium will explore the opportunities, challenges, and research priorities presented by high-frequency accelerometer data and use of smartphones and commercially-based wearable sensors for research and surveillance. The symposium will provide a big-picture overview of the state of physical activity surveillance successes and challenges with self-report, accelerometer-based, and wearable device assessment approaches.

Symposium 53A

AN OVERVIEW OF NEW SURVEILLANCE ACCELEROMETER DATA FROM NHANES AND LESSONS LEARNED

Dr. Hannah G. Lawman, PhD

Recent advances in technology led two large, national health surveys to incorporate high-frequency, wrist-worn, accelerometer measures of physical activity. The National Health and Nutrition Examination Surveys (NHANES) collected data from over 14,000 participants during the 2011–2012 and 2013–2014 cycles and will publically release accelerometer data on sleep and physical activity. The UK Biobank has collected data from over 50,000 participants, plans to collect data from a further 50,000 participants, and will also release their data to researchers. A broad overview of NHANES and Biobank physical activity surveillance approaches will familiarize researchers with the rationale, successes, and challenges behind the protocol and processing decisions that were made. NHANES and Biobank have similarities including the choice of device location, the utilization of raw high-frequency data, and comparable data processing and data release procedures. Differences include the device that was used, the sampling procedures, and the array of additional health measures that will be available to link to the accelerometer data. The current status of the NHANES accelerometer data and descriptive information will be presented including sample demographics, wear time information, and summary physical activity data. These surveillance systems can be contrasted with commercially held databases of fitness trackers or the use of wearable devices in research settings. Lessons learned and promising future directions in physical activity research with high-frequency accelerometer data will be explored.

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Symposium 53B

THE EVOLUTION OF ACCELEROMETERS AND THE FUTURE ROLE OF SELF-REPORTED PHYSICAL ACTIVITY

Dr. Richard P. Troiano, PhD

The application of accelerometer-based devices in research and population monitoring has exploded, with tens of scientific publications per year in the mid-1990s to nearly 1000 per year currently. Over the same period, accelerometer and data storage technology and post-collection data processing computational capacity have advanced, allowing evolution of analytic methods based on integrated motion counts collected in the vertical axis at the per-minute resolution level to raw acceleration in three axes collected at 80–100 Hz resolution. Anatomical placement has also diversified from waist-worn to thigh or wrist-worn or multiple locations. These changes have increased the ability to quantify and characterize PA-related movement as well as behavioral features like sleep and sedentary behavior. However, the multiple collection and processing options also complicate data comparability. Initially, devices were considered a “better” measure of physical activity than self-reports, and differences in outcomes, such as minutes of moderate-intensity physical activity (PA) or prevalence of meeting recommended amounts of PA, were ascribed to intentional misrepresentation or poor quantification in reported activity. Further consideration led to the recognition that devices and reports were measuring fundamentally different aspects of physical activity – motion and behavior, respectively. Proposals to facilitate data comparability and interpretation will be presented.

Symposium 53C

LOOKING FORWARD: THE FUTURE OF PHYSICAL ACTIVITY ASSESSMENT, MONITORING & INTERVENTION

Dr. James McClain, PhD

Accelerometer-based physical activity assessment methods have evolved over the past 20 years from early proof of concept research through an ongoing period of both device and methods development and small to large-scale study deployments. Rapid advancement in recent years continues to enhance technical capability, design, and cost of objective monitors; and ubiquitous computing technologies offer further opportunity for population monitoring and research. Even after 20 years' experience with count-based data, there are still problems with standardization of methods, management and interpretation of data, and ease of use. There are two tracks of opportunities and challenges regarding accelerometers that will drive future work. The first track is the availability of raw data from research accelerometers, which has the potential to provide more precise data on all dimensions of physical activity. To maximize the potential of new accelerometer capabilities, the field needs to overcome technological and methodological limitations by enhancing data comparability across devices and body placements, improving the quality and type of analytic methods available, and supporting implementation of new methods among researchers with varying technical sophistication. The second opportunity is use of smartphones and wearable sensors used daily by millions of people, which could revolutionize research and surveillance. Challenges and priority areas for research include integration of sensor-based, self-reported and contextual (e.g., GPS, GIS) data; open-source sensor hardware and software initiatives; potential for crowd-sourcing data for surveillance; and methods of integrating physical activity monitoring within clinical care. Limitations of accelerometer-based assessment and a rationale for continued implementation of self-report approaches to physical activity assessment will also be presented.

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Symposium 53D

LOOKING FORWARD: THE FUTURE OF PHYSICAL ACTIVITY ASSESSMENT, MONITORING & INTERVENTION

Dr. James F. Sallis, PhD

Accelerometer-based physical activity assessment methods have evolved over the past 20 years from early proof of concept research through an ongoing period of both device and methods development and small to large-scale study deployments. Rapid advancement in recent years continues to enhance technical capability, design, and cost of objective monitors; and ubiquitous computing technologies offer further opportunity for population monitoring and research. Even after 20 years' experience with count-based data, there are still problems with standardization of methods, management and interpretation of data, and ease of use. There are two tracks of opportunities and challenges regarding accelerometers that will drive future work. The first track is the availability of raw data from research accelerometers, which has the potential to provide more precise data on all dimensions of physical activity. To maximize the potential of new accelerometer capabilities, the field needs to overcome technological and methodological limitations by enhancing data comparability across devices and body placements, improving the quality and type of analytic methods available, and supporting implementation of new methods among researchers with varying technical sophistication. The second opportunity is use of smartphones and wearable sensors used daily by millions of people, which could revolutionize research and surveillance. Challenges and priority areas for research include integration of sensor-based, self-reported and contextual (e.g., GPS, GIS) data; open-source sensor hardware and software initiatives; potential for crowd-sourcing data for surveillance; and methods of integrating physical activity monitoring within clinical care. Limitations of accelerometer-based assessment and a rationale for continued implementation of self-report approaches to physical activity assessment will also be presented.

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Symposium 54

1:45 PM-3:00 PM

SOCIAL MEDIA AND HEALTH BEHAVIOR: STIMULATING AND ANALYZING THE ONLINE CONVERSATION

Sherry Pagoto, PhD¹, Brie Turner-McGrievy, PhD, MS, RD², Gina Merchant, PhD, MA³, David K. Ahern, PhD⁴, Sherry Pagoto, PhD¹¹University of Massachusetts Medical School, Worcester, MA; ²University of South Carolina, Arnold School of Public Health, Columbia, SC; ³University of California San Diego, Encinitas, CA; ⁴National Cancer Institute, Rockville, MD

Patients are using online social networks as a way to obtain health information as well as find and communicate with other patients who have a similar health condition, a phenomenon referred to as “peer-to-peer healthcare.” Online social networks are also being used to deliver health behavior interventions given their potential to be an economical, scalable, and convenient way to access patients outside of the medical setting. In studies of online patient communities, engagement has been shown to be associated with better health outcomes. However, we know little about how to increase engagement and even less about the content of online conversations about health. This symposium will be devoted to increasing our understanding of how patient’s engage in online social networks and how to stimulate their engagement. Three leading researchers in this space will present data on these topics. The first presenter will discuss outcomes from a pilot randomized trial of a Facebook-delivered weight loss intervention in which a small subset of participants were secretly incentivized to engage daily. Incentivizing the engagement of a few members of a community was hypothesized to lead to increased engagement in the greater community and thus facilitate greater weight loss relative to a similar condition in which no participants were incentivized to engage. The next presenter will discuss data on two health-related uses of social media. In the first study, she surveyed participants of a social media challenge aimed to increase physical activity to explore how participation affected their physical activity and weight. In the second study, she describes the sentiment of conversations about weight loss on Twitter. The final presenter will discuss a study in which she explores methods to quantify online communication about weight-related behavior change among participants in a Facebook-delivered weight loss intervention. She also explored whether engagement that is relevant to healthy lifestyle specifically increased over the course of the intervention. The discussant will initiate a conversation about implications for future work in online social network health behavior research.

Symposium 54A

USING SOCIAL MEDIA TO CHALLENGE PEOPLE TO BE PHYSICALLY ACTIVE AND TO TRACK SENTIMENT AROUND WEIGHT LOSS

Dr. Brie Turner-McGrievy, PhD, MS, RD

Social media has the potential to reach a wide range of individuals with scalable obesity treatment/prevention programs. The goal of this presentation is to detail 2 health-related uses of social media: social media challenges aimed to increase physical activity (PA)/lose weight and using social media to track sentiment around discussing weight loss.

Study 1: Researchers recruited participants ($n=69$) from the #13in2013 challenge, an online PA challenge aimed at encouraging participants to complete 13 races in 2013. Participants reported completing significantly more races during the challenge (17.5 ± 6.9 races) than the previous year (8.6 ± 7.4 races, $p=0.01$) and 93% ($n=56$) reported completing at least 13 races. Participants completed a mean of 1.4 ± 2.1 virtual races (races done with online friends), and total miles ran/walked during the challenge was significantly greater (718.4 ± 465.0 miles) than the previous year (462.1 ± 436.5 miles, $p=0.01$). Body weight post-challenge (68.2 ± 13.1 kg) was significantly lower than pre-challenge (69.7 ± 14.4 kg, $p=0.01$). **Study 2:** Researchers examined the temporal relationship of Twitter messages about weight loss over one year (2012), examining the hashtags (#weightloss, #diet, #fitness, and #health). Women posted to Twitter more frequently for #weightloss, #diet, and #health; however, men and women posted at equal rates for #fitness. For all of the four keyword posts, there were more posts coded as having a positive sentiment than a negative sentiment (although most posts were categorized as neutral in sentiment). **Conclusions:** These studies demonstrate that social media can be a way to both deliver health behavior interventions through PA challenges and track mentions of weight loss, particularly positive or negative mentions. Social media has the potential to be a scalable way to motivate individuals to participate in healthy weight interventions in the future. Examining social networks for trends in health-related posts may also aid in timing interventions when motivation among individuals is high.

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Symposium 54B

YOUNG ADULTS TRYING TO LOSE WEIGHT: TALKING ABOUT DIET AND EXERCISE ON FACEBOOK

Gina Merchant, PhD, MA

Introduction: Digital health interventions may influence what participants talk about with their online network. **Objectives:** Build dictionaries to flag Facebook posts as being about healthy-active living (HAL) or not. Test the dictionaries’ diagnostic validity and how HAL posting changes over time as a function of being in a weight-loss trial. **Methods:** Analyze Facebook posts made by overweight/obese college students in a 2-year randomized weight-loss trial ($N=404$). Posts made to the study’s page, likes, comments, and posts made by participants’ friends were excluded. Posts were analyzed in six-month intervals anchored to participants’ start date. Unigrams about purposeful physical activity and eating well were scraped from USDA websites, the Physical Activity Compendium, and the study’s Facebook page. Exclusion criteria included bigrams, household chores, and leisure activities. **Results:** Participants ($n=356$ with available data) made 120,242 posts. A random sample of pre-study entry posts (5% , $n=811$) was used as the ground truth for diagnostic validity. The dictionaries had low power to detect true positives (sensitivity=55%) but identified few false positives (specificity=98%). Inter-rater reliability was 75% (diet) and 62% (exercise). Most disagreements were due to generous vs. conservative coding in instances where post context was unclear. Final HAL dictionary words ($n=165$ exercise; $n=186$ diet) included fruits, vegetables, food descriptors (e.g., organic), proteins, grains, nutrients, activity descriptors (e.g., aerobic), activities, activity tools, and competitions (e.g., 5K). HAL posts ranged from 4.5% to 5.6% of total posts from baseline to study end. Chi-square results showed that treatment participants posted significantly more HAL compared to control participants at +1 and +1.5 years ($p<0.001$). **Conclusions:** The dictionaries’ poor sensitivity is problematic given the low prevalence of HAL posting. Analyses underway are testing whether HAL increases as a function of study engagement and whether receiving social support for HAL predicts weight loss.

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Symposium 54C

THE FEASIBILITY OF INCENTIVIZING PARTICIPATION IN A SOCIAL MEDIA DELIVERED WEIGHT LOSS PROGRAM

Dr. Sherry Pagoto, PhD

Online social networks are increasingly being used to deliver lifestyle interventions. Several studies have shown that greater engagement in the online social network predicts greater weight loss outcomes, but engagement across studies tends to be low. Little is known about how to increase engagement. Incentivizing engagement in a small number of participants may increase engagement of other participants via role modeling. This pilot feasibility trial randomized 56 participants with obesity to a 12-week Facebook-delivered weight loss intervention. In one condition 3 randomly selected users were incentivized to engage daily and the other condition had no incentivized participants. Incentivized participation was concealed to non-incentivized participants until they were debriefed at follow-up. We assessed feasibility and acceptability by number of complete posting weeks by incentivized users, retention rates, and non-incentivized participants’ reactions at debriefing. We also explored engagement and weight loss among non-incentivized participants. Engagement was defined as number of posts, comments, and likes. Participants were 46.2 (SD: 10.5) years, 91% female, 91% non-Hispanic white, with baseline BMI=32.4 (SD: 4.8) kg/m². All 3 incentivized participants met posting goals all 12 weeks. During debriefing, one participant expressed discontent about some participants receiving incentives. In the incentivized condition, 97% participants attended a follow-up visit versus 88% in the comparison group. No differences were observed between conditions in mean number of posts ($p=0.39$) or comments ($p=0.07$), but the incentivized user condition had greater mean likes ($p=0.03$), and total engagement ($p=0.02$). Likes (incentivized $r=-0.65$, $p=0.01$; comparison $r=-0.45$, $p=0.02$) and total engagement (incentivized $r=-0.63$, $p=0.01$; comparison $r=-0.43$, $p=0.03$) were associated with greater weight loss, but not posts or comments. Average weight loss in the incentivized condition was 3.4% (SD: 3.1%) and 1.9% (SD: 3.7%) in the comparison condition ($p=0.12$); the trial was not powered to detect differences in weight loss. Incentivizing a subset of users to engage daily was feasible and acceptable and led to more “likes” and total overall engagement relative to a comparison group.

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Symposium 55

1:45 PM-3:00 PM

PRIMARY CARE BEHAVIORAL HEALTH: INTEGRATION AND TRANSLATION

James E. Aikens, Ph.D.¹, Lynn Clemow, Ph.D.², Rodger S. Kessler, Ph.D. ABPP³, William Sieber, Ph.D.⁴, Jeffrey Goodie, Ph.D., ABPP⁵, Paul Estabrooks, Ph.D.⁶

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While it is widely accepted that evidence-based behavioral health services should be integrated into routine primary care practice, many questions remain regarding how to best organize, deliver, and evaluate such services. The first segment of this symposium will present data from a 5-year investigation of integrated care in an academic Family Medicine practice in order to: (a) illustrate how patterns and levels of behavioral health integration affect treatment efficacy and RE-AIM model elements, and (b) discuss the key patient and clinical characteristics that modify these associations. The second segment will focus upon an innovative new tool for measuring the degree to which behavioral health services are integrated into a primary care practice. The Practice Integration Profile (PIP) is based upon Peek's Lexicon of Collaborative Care and the input of two panels of clinician and research experts, and was tested in a diverse set of approximately 200 practices. This segment will: (a) present PIP total and sub-dimension scores across and within practice types, (b) describe associations between level of care and clinical/cost outcomes, (c) describe the initial development of a patient self-report version, and (d) present the design of a large national followup trial. The third segment of the symposium will present a mixed-methods investigation of how a large healthcare system is applying evidence-based behavioral medicine to a 100,000 patients from 7 clinics. This segment will: (a) review the barriers to translating evidence-based medicine and behavioral medicine into primary care, (b) examine the unique challenges of balancing between treatment fidelity concerns and patients' real world clinical needs, and (c) describe a new method to assess intervention delivery by behavioral health clinicians. Finally, general discussion is programmed to explore how attendees can best integrate behavioral medicine services and apply research findings in their own settings, as a means of maximally benefiting patients while promoting the science upon which we base our clinical work.

Symposium 55A

DOES LEVEL OF INTEGRATION MATTER?

Lynn Clemow, Ph.D.

While the integration of behavioral health services into primary care practice is an idea whose time seems to have come, many research questions remain to be addressed regarding the best ways to organize and deliver such services. One important question is how important the level of integration of services is to improving patient care and patient outcomes. In this presentation, we will critically review the data in the published literature on primary care behavioral health to examine overall patterns of integration levels as they affect outcomes regarding efficacy of treatment, as well as elements of the RE-AIM model. We will also present data from a 5-year experience with integrated care in an academic Family Medicine practice to illustrate these issues. A particular focus will be on different kinds of patients and problem areas (including basic demographics, diagnoses, comorbid conditions, severity of medical and psychological problems, and etc).

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Symposium 55B

EARLY RESULTS FROM THE PRACTICE INTEGRATION PROFILE

Rodger S. Kessler, Ph.D. ABPP

Based on Peek's Lexicon of Collaborative Care and ongoing review from two panels of clinician and research experts, we developed the 30-item, 6-dimensional Practice Integration Profile (PIP) to measure degree of primary care integration. We then tested the measure on a diverse cross section of roughly 200 practices. We will present descriptive data on total and sub-dimension scores across and within practice types. We will also review the subsequent national trial being planned, a series of questions about the relationship between levels of care relationship and clinical/cost outcomes, and discuss the early development of a patient self-report version.

Symposium 55C

LOST IN TRANSLATION: FROM ANNALS OF BEHAVIORAL MEDICINE TO ASSISTING A POPULATION OF PATIENTS

William Sieber, Ph.D.

Given that historically reports are that application of data from peer-reviewed literature can take well over a decade to be delivered to patients in clinics, more attention must be paid to assessing how best to apply such information for patients' benefits. This presentation will review the issues that are common challenges in translating evidence-based medicine and behavioral medicine, as well as identify unique challenges presented when applying behavioral medicine interventions in real-world clinical settings. Assessment of what is actually delivered by clinicians must be thoughtfully created to better identify how to improve the quality and fidelity of interventions as reported in the peer-reviewed literature. Comparison of what is intended by creators of a behavioral medicine intervention, to what is needed by an individual patient in need, to what is actually delivered requires precision in definition and measurement. In addition, behavioral medicine services delivered in integrated primary care settings often involve promotion and management of a population's health, with its own set of "translational challenges". Finally, how issues of "fidelity" with intended interventions conflict with what is "best clinical judgment" needs to be resolved and reported. Mixed methods data analysis will be presented on one system's efforts to apply evidence-based behavioral medicine to a population of nearly 100,000 patients across 7 clinics. Attendees will be encouraged to identify in their own work how best to promote translation of behavioral medicine interventions for maximal impact on patients' lives, while promoting the science on which we base our clinical work.

Symposium 56

1:45 PM-3:00 PM

MULTIMORBIDITY: IMPLICATIONS FOR BEHAVIORAL INTERVENTION AND AGING

Jerry Suls, PhD¹, Marcel E. Salive, MD MPH², Joost Dekker, PhD³, Graham Colditz, MD, DrPH⁴, Reginald Tucker-Seeley, ScD⁵

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The proposed symposium features three esteemed researchers who have made significant contributions to the study of multimorbidity and its implications for both behavioral interventions and aging. The topic of multimorbidity is a relatively new one for behavioral medicine. Although study of psychological/psychiatric conditions connections to primary medical conditions is part and parcel of behavioral medicine, study of the implications of co-occurring primary medical conditions, such as cancer and diabetes, or arthritis and hypertension, for psychosocial function and for implementation of behavioral interventions has been limited. The three presentations highlight different aspects of multimorbidity: (1) What kinds of clinical trials are needed in the context of the prevalence of co-occurring medical conditions and what would a successful trial look like?; (2) What has been learned about creating evidence-based clinical guidelines for patients with conditions, such as diabetes and pain disorders? (3) How well do behavioral intervention trials represent patients with multiple chronic conditions? All three presenters will highlight findings from their research, systematic reviews and experience in facilitating, reviewing and conducting research with implications for the development of evidence-based clinical guidelines for patients with multiple conditions. As co-occurring conditions are more prevalent for older adults, they will be a focus of the talks. In addition, the epidemiology of multimorbidities will be described to place the challenges older into context. Finally, an expert in aging will serve as a discussant to further elucidate connections and implications for both research and practice.

Symposium 56A

MULTIMORBIDITY IN OLDER ADULTS: INTERVENTIONS AND OUTCOMES

Marcel E. Salive, MD MPH

Multimorbidity, defined as the coexistence of 2+ more chronic conditions, has been observed in about 2/3 of older adults in many population studies, and is increasing faster than any single disease. Multimorbidity has a substantial burden in terms of symptoms, medications, treatment costs, and quality of life (QOL). Interventions such as self-management, behavioral change and care coordination/transformation, need to be evaluated using an interdisciplinary patient-centered (*not disease-centered*) approach, for impact on universal and disease-specific outcomes. Universal outcomes refers to health outcomes that occur across multiple conditions and are less disease-specific such as self-rated health, symptom burden, functional status, and QOL. Multimorbidity itself can selectively be a focus for these trials. A successful trial using a multimorbidity outcome of say cardiovascular disease, cancer and dementia could develop strong evidence that would potentially have a major public health impact.

Symposium 56B

ADAPTING PHYSICAL ACTIVITY AND EXERCISE TO COMORBID CONDITIONS.

Professor Joost Dekker, PhD

Purpose: Physical activity and exercise are effective in a wide range of chronic diseases. Comorbid disease necessitates adaptations to physical activity and exercise. Guidance on how to develop such adaptations is currently not available. We present an innovative strategy for the development of comorbidity-related adaptations to physical activity and exercise in an index disease. Method: We previously developed comorbidity-related adaptations to exercise therapy in osteoarthritis. We now broaden this approach into a general strategy for the development of comorbidity-related adaptations to physical activity and exercise in an index disease. Results: The strategy consists of four steps. The first three steps involve creating an inventory of comorbid disease, an inventory of contraindications and restrictions on physical activity and exercise, and an inventory of potential adaptations to physical activity and exercise. In the fourth step, this information is synthesized into guidance on comorbidity-related adaptations to physical activity and exercise in the index disease. The adaptations concern physiological, behavioral and environmental factors. Conclusion: In view of the general effectiveness of physical activity and exercise, and the high prevalence of comorbidity in older people, there is a great need for comorbidity-related adaptations.

Symposium 56B

SYSTEMATIC REVIEW OF INCLUSION OF MCC IN BEHAVIORAL/PSYCHOSOCIAL RCTS

Dr. Graham Colditz, MD, DrPH

As the population with multiple chronic conditions (MCC) increases, it is essential that randomized controlled trials (RCTs) include MCC to ensure generalizability of trial results. This review assesses the inclusion of MCC in RCTs of behavioral/psychosocial interventions published from 2000-2014.

A librarian searched for all RCTs targeting chronic illness in MEDLINE and EMBASE within three time periods (2000-2004, 2005-2009, 2010-2014). Results were randomly ordered and 200 trials per period selected. Selection criteria were primary reports of RCTs of behavioral/psychosocial interventions targeting adults with chronic conditions. This review considered 20 chronic conditions from a list compiled by the Office of the Assistant Secretary of Health. Data were extracted independently by two readers and differences resolved by a third party.

Results: 600 behavioral/psychosocial intervention RCTs were assessed. Targeting MCC was rare (4.3%), and 68.3% of trials included general, specific, or vague exclusion criteria for MCC. This did not change over time ($p=0.87$). Of trials that excluded MCC, 15.9% reported number excluded for MCC. A maximum age as exclusion criteria was common (27.8%), and median maximum age was 65.0. Inclusion of MCC was identified in 35.8% of trials, with 59.5% of these reporting MCC prevalence. Condition specific descriptions (28.7%) were more common than general descriptions (11.3%). Of trials reporting specific conditions, the mean number of comorbidities reported was 2.1. **Conclusions:** In a representative sample of behavioral/psychosocial intervention RCTs published from 2000-2014, trials frequently exclude individuals with MCC using specific, general, or vague exclusion criteria, and criteria based on factors correlated with MCC, such as age. When trials include MCC, the prevalence of MCC is often not specified. Improved reporting of trials is necessary to be able to evaluate if and to what extent MCC are included.

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Symposium 57

1:45 PM-3:00 PM

WHEN TRAUMA AND HEALTHCARE INTERSECT: EXPLORING INTERPERSONAL VIOLENCE,

CANCER, AND TRAUMA TRAINING AS CASE EXAMPLES

Emily F. Rothman, ScD¹, Rose Eva. Constantino, PhD, JD, RN, FAAN, FACHE², Sheela Raja, PhD³, Julie B. Schnur, Ph.D.⁴

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Violence and resulting psychological trauma are increasingly viewed as fundamentally important public health and behavioral medicine issues. It is now well-established that interpersonal violence victimization and trauma symptoms can exacerbate chronic disease incidence and severity, and interfere with patients' ability to utilize healthcare or adhere to treatment regimens. This collection of papers will introduce participants to a federally-funded model training on trauma-informed care for clinicians, presents data from cancer patients about ways in which cancer treatment can be re-traumatizing (and indicates trauma-informed care is needed), and results of a small randomized controlled trial (RCT) that tested the efficacy of a partner violence victimization intervention. Collectively, the papers offer different perspectives on why trauma-informed care is important in healthcare settings, how healthcare settings can become trauma-informed, and whether behavioral interventions related to violence can improve patients' healthcare experience. Participants will have an opportunity to consider the relevance of violence and trauma to behavioral medicine and think about ways to integrate these topics into existing practices.

Symposium 57A

COMPARING ONLINE WITH FACE-TO-FACE INTERVENTION IN INTIMATE PARTNER VIOLENCE: A RANDOMIZED CLINICAL STUDY

Dr. Rose Eva. Constantino, PhD, JD, RN, FAAN, FACHE

Introduction: Intimate Partner Violence (IPV) is a pervasive yet preventable social, law enforcement and public health problem. IPV is a major source of morbidity and mortality in the U. S. and other nations. The projected costs of IPV in terms of survivors' physical, mental, economic, and social well-being are estimated conservatively to reach 13.6 to 15.6 billion by 2021. Data suggest that by 2021, there will be more than 1000 IPV-related deaths in the U. S. annually. Therefore, identifying effective methods for preventing IPV is a public health priority. **Purpose:** Our team developed an intervention called H (Health)-E (Education on safety)-L (Legal resources)-P (Program) designed for both the primary and secondary prevention of IPV. The H-E-L-P intervention can be delivered in person or via email to women experiencing IPV. **Methods:** A sequential mixed methods design was used. Only quantitative data are reported in this presentation. Participants were randomly assigned to one of three study groups: Online (ONL [n=11]), Face-to-Face (FTF [n=10]), and Waitlist Control (WLC [n=11]). The HELP intervention was offered to 32 adult female participants who were 45.2% Asian, 32.3% White, and 22.5% Black. Outcome measures were anxiety, depression, anger, personal and social support. In total, 64% (n=20) of the participants reported having experienced IPV before the age of 18. **Results:** The anger mean score pre-and post-test differences were significant for ONL ($p < 0.001$; and FTF ($p = 0.01$); for WLC ($p = 0.006$). The personal and social support pre- to post-test mean score differences were significant for ONL ($p < 0.001$; and FTF ($p = .01$). The HELP intervention decreased anxiety, depression, and anger, and increased personal and social support in the ONL group. **Implications:** Harnessing technology to provide men and women with information on health, safety and legal resources is important in developing healthy and safe relationships and to those already in IPV, strategies to break the cycle of violence safely and competently.

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Symposium 57B

TRAUMA INFORMED MEDICINE E-CASES: A MODEL TEMPLATE FOR TRAUMA INFORMED MEDICAL EDUCATION

Sheela Raja, PhD

Introduction: Exposure to traumatic events predisposes individuals to poor health outcomes, in part, through neurophysiological changes and the use of high-risk behaviors to cope with trauma. Many trauma survivors do not discuss their history with their healthcare providers, and even when they do, physicians are not always aware of the relationship between traumatic events and health. The term trauma informed care (TIC) has been used to describe ways in which providers in varied settings (e.g., social service, healthcare) can better serve people who have experienced traumatic life events. Currently, there are very few evidence-based, systematic programs aimed at educating healthcare providers on TIC. **Methods:** This presentation will outline a model template for developing online, case-based education on TIC in medical settings. The Trauma Informed Medicine-e Cases (TIme) project was initiated by the Office on Women's Health, in the U.S. Department of Health and Human Services. Thirteen online, interactive cases were created as follows: 1) TIme leaders identified best practices based on a systemic review of the literature. 2) These practices were reviewed by an advisory panel consisting of national TIC experts. 3) Case writing teams were formed by pairing psychologists and physicians with expertise in TIC. 4) Case reviewers ensured that case content reflected the learning objectives and practices identified by the advisory panel. TIme leaders created assessment questions to measure changes in providers' TIC knowledge. Based on Miller's Pyramid for assessing clinical competence, long-term plans include assessing changes in provider behavior. **Implications:** Interactive, online clinical cases can be used to educate healthcare providers about TIC, with a particular emphasis on improving the therapeutic relationship and decreasing high-risk behavior. Due to the demand, innovation and accessibility, we expect these online, case-based trainings to become a model program that can be replicated and expanded.

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Symposium 57C

HEALTHCARE RETRAUMATIZATION IN CHILDHOOD SEXUAL ABUSE SURVIVORS IN CANCER SETTINGS: A QUALITATIVE EXPLORATION

Dr. Julie B. Schnur, Ph.D.

Background: Statistics on childhood sexual abuse (CSA) are staggering: 25% of women and 8% of men in the United States have experienced unwanted or abusive sexual experiences before age 18. Healthcare procedures, even those that may seem minor or routine, share similarities with CSA (e.g., being touched by authority figures, feeling powerless). Consequently, CSA survivors can feel retraumatized by healthcare, and in turn, may avoid or be non-adherent to healthcare recommendations. Unfortunately, the specific cancer treatment retraumatization experiences of CSA survivors have been largely overlooked in the literature. The goal of this presentation is to address this gap. **Methods:** We conducted an anonymous, online survey via Amazon Mechanical Turk of men and women who reported both a CSA history and having been diagnosed with cancer. Thematic analysis was used to analyze the responses of individuals to two open-ended items focused on cancer treatment-related triggers and difficulties. Responses of participants who reported: skin cancer (n=116), breast cancer (N=50), colorectal cancer (N=34), or gynecologic cancer (ovarian, cervical, N=79) were examined. **Results:** We identified 5 common themes across cancer types including: a) Procedure-related triggers (key subthemes—being examined/touched, being undressed/exposed); b) Emotional-relational struggles (key subthemes—powerlessness/vulnerability, mistrust); c) Provider characteristics and behaviors as retraumatizing (key subthemes—male gender, multiple providers, physician as stranger); d) Questioning the meaning of another bodily assault (i.e., cancer); and, e) Similarities to CSA (key subthemes—feeling weak, feeling ordered to tolerate discomfort and embarrassment). **Conclusions:** Cancer treatment can be retraumatizing for CSA survivors. The implementation of CSA-specific sensitive practice guidelines and trauma-informed care holds the potential to improve their treatment experience.

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Symposium 58

1:45 PM-3:00 PM

COMPLEMENTARY APPROACHES FOR MENTAL HEALTH ACROSS THE PERINATAL PERIOD

Jennifer Huberty, PhD¹, Jeni Matthews, MS², Patricia A. Kinser, PhD, WHNP-BC, RN³, Jenn Leiferman, PhD⁴

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Maternal mental health disorders (e.g., depression, anxiety) are a major public health concern throughout the perinatal period. In the US over 1/5 of women will experience depression or anxiety during pregnancy and/or postpartum. Maternal depression and anxiety are associated with poor maternal and child outcomes (e.g., preeclampsia, low birth weight). Most common treatments for maternal mental health disorders are psychotherapy and/or medication. However, women are reticent to take medication during their pregnancy and desire non-pharmacological approaches instead. Complementary health approaches (e.g., yoga, meditation) have been effective in treating depression in non-pregnant populations including cancer survivors and cardiovascular disease patients. Such approaches may improve symptoms associated with depression and anxiety in the perinatal period by regulating emotions and mood. Yet little is known about the potential health benefits and preferences for the use of complementary approaches during pregnancy. There is a need to explore the use of complementary health approaches throughout the perinatal period to determine appropriate and acceptable strategies, design interventions, and guide health care provider recommendations for mental health benefits during pregnancy. **The purpose of this symposium is to explore the potential of complementary approaches (e.g., yoga, meditation) for mental health benefits across the perinatal period.** Jeni Matthews will present on the perceptions, uses of, and interests in using complementary approaches across a large, national sample of pregnant women. Patricia Kinser will present on the biobehavioral research design of a study evaluating the feasibility, acceptability, and preliminary effects of integrating yoga into a group prenatal care model with Hispanic and Black women. Jennifer Huberty will present feasibility and acceptability of using the Internet to deliver yoga to women who have PTSD symptoms in the inter-conception period. Jenn Leiferman discussant will contextualize the development and evaluation of using complementary approaches to improve mental health during the perinatal period and make suggestions for future research.

Symposium 58A

FEASIBILITY AND ACCEPTABILITY OF AN ONLINE YOGA INTERVENTION FOR MOTHERS AT RISK FOR PTSD

Jennifer Huberty, PhD

Each year >26,000 pregnancies in the U.S. end in stillbirth (late fetal death at ≥20 weeks gestation). As a result, 30% of women will experience PTSD within two years and symptoms often linger 5-18 yrs. PTSD may reduce self-compassion, emotional regulation, and sleep quality, which have been associated with increased risk for chronic disease, premature mortality, and cognitive delays in subsequent children. Treatment for PTSD in mothers with stillbirth (e.g., support groups/counseling, medications) may be less effective than in the general population because women report support groups are not therapeutic, prefer non-pharmacologic alternatives as they are trying to conceive, express interest in home-based treatments, and have limited access to treatment. Several studies have demonstrated that yoga is an efficacious, safe, and acceptable approach for reducing PTSD in other populations. Considering the unique needs and barriers in this population, online-streamed yoga (i.e., videos accessed at home, on-demand), may be a feasible, effective, and long-term approach to care for these women. The purpose of this presentation is to discuss the feasibility and acceptability of an online yoga intervention in women at risk for PTSD. We implemented a 12-wk online yoga intervention (60-min/wk yoga prescription). Of those that were eligible (n=109), 77 consented and participated. Just over 60% participated in 12-wks of yoga, of which 30% completed 12-wk post assessment, and 27% dropped out (1/3 due to pregnancy). Women averaged 30-mins of yoga/wk and 91% completed their daily/weekly logs. A majority (74%) were satisfied with online yoga and 91% would recommend online yoga to women at risk for PTSD. A majority agreed that the instruction was adequate for beginners (78%) and poses felt safe (78%). Limitations to participation were mostly related to personal computer issues (40%). A majority (78%) said they were likely to continue practicing yoga with 87% reporting \$9/mo. was a reasonable cost to pay for online yoga. Yoga may be a feasible approach to care in women at risk for PTSD. Future research is warranted to determine its effectiveness on PTSD symptoms and to test this approach in other populations to improve access to mental health care.

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Symposium 58B

PERCEPTIONS, USES OF, AND INTERESTS IN COMPLEMENTARY APPROACHES TO MANAGE MENTAL HEALTH DISORDERS DURING PREGNANCY

Ms. Jeni Matthews, MS

The use of complementary approaches (e.g., yoga, meditation) is increasing in popularity with nearly 40% of US women reporting prior use (2012 National Health Statistics Report) and typically use complementary approaches for general wellness or to prevent disease. Despite this, research using complementary approaches among women during the perinatal period is lacking. Complementary approaches are likely to improve mental health disorders (e.g., depression, anxiety) and mood which are becoming major public health concerns during pregnancy. Previous studies report approximately 20% of pregnant women experience depressive and anxiety symptoms. As such, complementary approaches may be an attractive modality for managing mental health disorders in pregnant women as many report a desire for non-pharmacological options to manage their health. However, little is known regarding the acceptability and preferences for the use of complementary approaches during pregnancy. To further our understanding, we conducted a national survey in women ≥ 8 weeks pregnant, ≥ 18 years old, and residing in the US ($N=1,032$). Descriptive statistics and independent t-tests were calculated for categorical variables (95% confidence intervals). Independent t-tests were used to observe mental health differences between users and non-users of alternative approaches. Approximately 1/3 of pregnant women reported participating in a complementary approach ($n=329$). The most popular complementary approaches pregnant women participated in were prayer ($n=147$, 44.7%), yoga ($n=118$, 35.9%), massage ($n=106$, 32.2%), and meditation ($n=87$, 26.4%). Relaxation ($n=260$, 79.0%), stress relief ($n=235$, $n=71.4\%$), and pain management ($n=150$, 45.6%) were the most frequent reasons women chose to use complementary approaches. Interestingly, women who never used a complementary approach reported not doing so because they didn't know much about it ($n=398$, 60.8%). Mean anxiety ($d=.208$; $p=.004$) and depression ($d=.280$; $p<.001$) scores were significantly lower in users than non-users of complementary approaches. This descriptive, cross sectional study highlights the need to educate pregnant women about the use of complementary approaches for mental health.

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Symposium 58C

ENHANCING RIGOR IN STUDIES OF COMPLEMENTARY HEALTH APPROACHES FOR PERINATAL MENTAL HEALTH: BIOBEHAVIORAL RESEARCH DESIGN

Dr. Patricia A. Kinser, PhD, WHNP-BC, RCN

Background: Complementary health approaches, such as yoga, show promise for improving perinatal mental and physical health and maternal-child health outcomes. However, in order to establish evidence-based clinical guidelines, methodologically sound research is warranted which explores biobehavioral mechanisms of such approaches. For example, given the association of minority and socioeconomic status with chronic stress and poor maternal-child health outcomes, it is highly relevant to explore biomarkers that may assist with the evaluation of risk of and resilience to poor maternal-child health outcomes and responsiveness to complementary interventions. **Purpose/Methods:** In this symposium session, we elucidate design and implementation issues in complementary health research within the context of a biobehavioral approach, or the evaluation of the complex interactions of biological and behavioral factors and health outcomes. To do so, we will discuss our current research study which aims to explore preliminary effects of prenatal yoga on psychological measures and non-invasive stress biomarkers in low-income Black and Hispanic women and which aims to evaluate the feasibility and acceptability of prenatal yoga with this population. Data collection is currently on-going but preliminary data will be available for the symposium. The main focus of the symposium session will be on design and implementation issues regarding biobehavioral research in this area. **Results/Conclusions:** This symposium will provide an opportunity for participants to explore a biobehavioral research framework, learn about recent research findings, and discuss methodological issues related to a biobehavioral study of prenatal yoga.

Symposium 59

1:45 PM-3:00 PM

ADJUSTING TO PROSTATE CANCER IN CONTEXT: INFLUENCES OF RACE, ETHNICITY, AND SEXUAL ORIENTATION

Michael A. Hoyt, PhD¹, Michael A. Diefenbach, Ph.D.², Heather Orom, PhD³, Christian J. Nelson, PhD⁴, Tracey A. Revenson, PhD⁵

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Prostate cancer is the most common solid tumor in American men with approximately 2.5 million men living with prostate cancer and over 241,000 new cases estimated in 2012. Theories of adjustment to cancer and other chronic illnesses specify various contexts that can influence appraisal and coping processes, ultimately shaping adjustment. These include macro-level factors such as socioeconomic status, race, ethnicity, and sexual orientation, and culture, as well as the interpersonal, intrapersonal, and disease-related contexts. Integrating theoretical perspectives on adjustment to cancer and empirical evidence from research in men with prostate cancer, this symposium will explore how such macro-level contexts shape adjustment and health-related quality of life in men with prostate cancer. This will include the presentation of data elucidating ethnic group health disparities in psychological outcomes among men with prostate cancer ($N=1204$); results from a longitudinal study of African American and White men with prostate cancer ($N=962$) identifying differences in decision making factors and illness representations; results from an in-depth qualitative study describing the unique experiences of gay men with prostate cancer; and a study examining afri-cultural influences on coping and adjustment to prostate cancer.

Increasingly, understanding disparities in health related to macro-level contextual factors such as race, ethnicity, and sexual orientation is a priority for research. Such contexts shape individual and environmental responses to illness-related experiences, including beliefs about health and health care, and they determine the availability and quality of resources. To elucidate the complexities of disparities in adjustment, more critical work is needed to understand how intersectionality of multiple group membership affects adaptation to cancer.

Symposium 59A

UNDERSTANDING THE EXPERIENCES OF GAY MEN WITH PROSTATE CANCER

Dr. Michael A. Hoyt, PhD

Gay men have been under-represented in prostate cancer care and research and represent a subpopulation at high risk for poorer health-related quality of life (HRQOL) and psychological adjustment following cancer. Gay men disproportionately experience risk factors for declining HRQOL and psychological adjustment including general and minority-related stressors (e.g., prejudice, stigma, violence), unmet health care needs, and social isolation. Responsive to the need for more to understand health processes among gay people, this presentation will report results from a qualitative focus group study with gay men with prostate cancer. Three focus groups were conducted with gay men with a past diagnosis of prostate cancer. Men were asked to share their experiences with diagnosis, treatment, and survivorship with an emphasis on understanding their experiences as gay men. Using a theory-guided minority stress approach, psychosocial and health care factors that might constitute influences on risk and resilience were emphasized. Focus groups were transcribed and coded using a grounded theory approach. Ten major thematic areas emerged that included reflections on stigma and discrimination experiences in health care, unique and unmet support needs, intersections of gay identity and cancer, and influences on coping with cancer. Men described experiences of marginalization in medical care (e.g., lack of consideration of gay sexuality, disclosure of sexual orientation), desire for different social support (e.g., lack of support from the gay community), identity concerns affected by prostate cancer (e.g., feeling sexual function equates with gay identity), and unique influences on coping (e.g., "I've lived through the HIV epidemic, so I can surely handle cancer.") An emphasis will be placed on describing gay men's experiences and identifying specific recommendations to foster positive adjustment and better serve gay survivors.

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Symposium 59B

COGNITIVE AND EMOTIONAL RESPONSES TO PROSTATE CANCER AMONG AFRICAN AMERICAN & WHITE PATIENTS: RESULTS FROM A LONGITUDINAL STUDY

Michael A. Diefenbach, Ph.D.

Introduction: Compared to White men, African American men have a significantly higher risk of developing prostate cancer, are often diagnosed with a more aggressive tumor, and are more likely to die from the disease. Although, prostate cancer patients have a number of treatment options, treatment decisions are often reported to be difficult and associated with elevated distress. The goal of the present study was to explore potential differences in men's prostate cancer-related illness representations and distress reactions to the disease and its treatment in relation to treatment decision variables. **Methods:** As part of a longitudinal study on decision making and quality of life among newly diagnosed prostate cancer patients (N=962; 10% Black; 4% Hispanic; 86% White) we examined, at baseline, illness representational variables (i.e., causal, severity, and cure beliefs) as well as disease and treatment-related worry of White and Black prostate cancer patients. **Results:** Black men, compared to White men, felt less informed about prostate cancer; were more worried about surgery and radiation treatment options, and preferred an active role in decision making (all $p < 0.05$). Black men were also more worried about recurrence compared to White men, but indicated that the treatment decision was less difficult compared to reports of their White counterparts. There were no differences in anxiety or depression by race. **Discussion:** Distinct differences in illness representations and emotional responses among Black and White patients persist. Targeted physician-patient consultations should incorporate cultural-specific disease and treatment-related representations as well as address potential negative emotional reactions.

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Symposium 59C

RACIAL/ETHNIC DISPARITIES IN PROSTATE CANCER PATIENTS' QOL UNDERLIE DISPARITIES IN EMOTIONAL DISTRESS

Heather Orom, PhD

Few studies have examined racial/ethnic differences in prostate cancer survivorship, sometimes noting that African Americans (AA) and Hispanics have reported worse quality of life (QOL) than their White counterparts. While worse QOL would typically be associated with worse emotional well-being; paradoxically, some studies indicate that AA prostate cancer survivors experience better emotional well-being than Whites. The purpose of our study was to disambiguate whether minorities have worse physical QOL and whether this partially accounts for disparities in emotional well-being in survivorship.

As part of an ongoing longitudinal study of prostate cancer survivorship, participants (N=1204; 85% White, 9% Black, 6% Hispanic) completed the emotional distress thermometer and the EPIC (prostate cancer-specific QOL) at baseline (pre-treatment), and six months after treatment or active surveillance. We used multivariable regression with robust standard errors to estimate racial/ethnic differences in distress and QOL six months post-treatment, controlling for baseline distress or QOL, type of treatment received, age, education, marital status, employment status, and recruitment site.

AA ($b=0.68$, $p=.008$) and Hispanics ($b=1.22$, $p<.001$) were more emotionally distressed six months post-treatment than Whites. AA had lower urinary quality of life ($b=-4.94$, $p=.002$) and Hispanics had marginally lower urinary quality of life ($b=-3.14$, $p=.08$). Bowel and sexual QOL did not vary by race/ethnicity in adjusted models. Urinary QOL partially mediated racial/ethnic differences in emotional distress (indirect effects were 0.34, $p<.001$ and 0.22, $p=.05$ for AA and Hispanics, respectively).

There is mounting evidence that AA and Hispanics have worse physical QOL in survivorship than Whites. The present study links disparities in QOL to disparities in emotional well-being in minorities using a rigorous, longitudinal design in which we were able to control for baseline QOL and emotional distress.

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Symposium 59D

RACIAL/ETHNIC DISPARITIES IN PROSTATE CANCER PATIENTS' QOL UNDERLIE DISPARITIES IN EMOTIONAL DISTRESS

Dr. Christian J. Nelson, PhD

Objective: Black men have a 60% higher incidence rate of prostate cancer than White men, and are 2.3 times more likely to die from the disease compared to Caucasian men. Specific aficultural ways of coping (i.e., Cognitive/Emotional Debriefing, Spiritual-Centered Coping, Collective Coping, and Ritual-Centered Coping) have been identified, however it is yet to be determined if these strategies help Black men cope with prostate cancer. This study explored the relationship between aficultural coping strategies and distress, and hypothesized that resilience would mediate this relationship. **Methods:** 98 Black men with prostate cancer who received prostate specific antigen (PSA) tests at standard clinic appointments completed the Aficultural Coping Structure Inventory (ACSI), the Hospital Anxiety and Depression Scale (HADS), and the Brief Resilience Scale (BRS). **Results:** The mean age was 67 ± 9 years, 52.2% were early stage prostate cancer and 47.8% were late stage. 11.4% of men met a total cut-off score of ≥ 16 on the HADS, with 21.8% scoring ≥ 7 on the subscale of anxiety and 16.3% on the depression subscale. Surprisingly, three aficultural coping methods were not related to anxiety or depression (range: $r=0.00$ to 0.20 , $p=0.06$ to 0.97). The Ritual-Centered Coping subscale of the ACSI was positively correlated to the anxiety ($r=0.29$, $p=0.005$) and depression ($r=0.23$, $p=0.025$) subscales of the HADS. Greater resilience was associated with decreased anxiety ($r=-0.45$, p Conclusions: Understanding the dimensions of resilience and coping is essential for tailoring effective psychosocial interventions for Black men with prostate cancer. Contrary to our hypothesis, specific aficultural ways of coping were not helpful for men dealing with distress related to prostate cancer. Bolstering resiliency in these men may be more effective in managing their distress.

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Symposium 60

1:45 PM-3:00 PM

HIGH-RISK INDOOR TANNING BEHAVIOR: EVIDENCE TO INFORM SKIN CANCER PREVENTION INTERVENTIONS

Leah M. Ferrucci, MPH, PhD¹, Brenda Cartmel, PhD¹, Darren Mays, PhD, MPH², Jerod L. Stapleton, PhD³

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Skin cancer is the most common malignancy in the US, and indoor tanning in youth and young adulthood significantly increases skin cancer risk, accounting for an estimated 10% of skin cancer cases. Despite recent, modest decreases in the overall prevalence of indoor tanning, this behavior remains common among young people. While increased skin cancer risk from indoor tanning is entirely preventable, effective preventive interventions are extremely limited. This symposium will feature three presentations that will characterize high-risk indoor tanning behavior among young adults, and provide evidence to inform indoor tanning interventions. The first study will describe correlates of tanning dependence/addiction, including seasonal affective disorder and alcohol dependence and abuse, using data from population-based case-control study of non-melanoma skin cancer among young adult women < 40 . The second study will report on predictors of high-risk patterns of indoor tanning behavior (e.g., frequent, year round tanning) in a community-based sample of young adult women ages 18 to 30 years who indoor tan. This analysis focuses on identifying potential modifiable behavioral intervention targets associated with high-risk tanning behaviors, including indoor tanning attitudes and risk-related cognitions. The final study was designed to test the applicability of sociocultural body image theory in modeling the indoor tanning behavior of young adult women. The study highlights the importance of considering the role of body image and self-esteem in tanning behavior. Our discussant will provide a critical synthesis of these findings and will lead a discussion of how these studies advance our understanding of the science of indoor tanning and can be translated into effective skin cancer prevention interventions.

Symposium 60A

PREDICTORS OF TANNING DEPENDENCE IN WHITE NON-HISPANIC FEMALES AND MALES

Dr. Brenda Cartmel, PhD

Background: Growing evidence suggests that some individuals may exhibit symptoms of dependence to tanning via ultraviolet light, a known carcinogen; however, few studies have investigated predictors of tanning dependence (TD). **Methods:** We conducted an online survey in a sub-set of early-onset (< age 40) basal cell carcinoma case-control study participants in Connecticut. Using the modified-Cut down, Annoyed, Guilty, Eye-opener (mCAGE) and a questionnaire based on the addiction criteria of the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (mDSM-IV-TR), participants were classified as having 'Symptoms of TD' if they met TD criteria on both questionnaires, 'Tendency for TD' if met TD criteria on one questionnaire, or 'Not TD'. We also assessed lifetime alcohol dependence, nicotine dependence, seasonal affective disorder (SAD), 'exercise addiction,' and depression. We compared TD groups with multivariate logistic regression. **Results:** 499 individuals (75% female) reported volitional tanning and 24.4% of these were classified as having 'Symptoms of TD' and 24.4% as having a 'Tendency for TD'. Women were more likely to have 'Symptoms of TD' (odds ratio (OR) 6.93; 95% Confidence Intervals (CI) (3.36-14.27)) or a 'Tendency for TD' (OR 2.82; 95% CI 1.59-4.98) than men. Alcohol dependence (OR 6.55; 95% CI 3.19-13.42), alcohol abuse (OR 3.16; 95% CI 1.81-5.51), 'exercise addiction' (OR 5.47; 95% CI 1.15-26.06) and SAD (OR 2.77; 95% CI 1.26-6.09) were significant predictors for 'Symptoms of TD'. Alcohol dependence (OR 3.66; 95% CI 1.84-7.31) and alcohol abuse (OR 2.60; 95% CI 1.53-4.41) were the only other significant predictors for 'Tendency for TD'. **Summary:** Knowledge of associations between TD and sex, alcohol dependence/abuse, SAD, and 'exercise addiction' may be helpful to practitioners treating TD and for targeting TD preventive interventions.

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Symposium 60B

CORRELATES OF FREQUENT INDOOR TANNING AMONG YOUNG ADULT WOMEN: IMPLICATIONS FOR INTERVENTION

Darren Mays, PhD, MPH

Despite modest population-level declines in the prevalence of indoor tanning (IT) recently, IT remains common among young adult women. IT-attributable skin cancer risks are entirely avoidable, but preventive interventions targeting high-risk young women are limited. In order to identify modifiable intervention targets, this study examined psychosocial correlates of frequent IT behavior in a community-based sample of 310 non-Hispanic white women ages 18 to 30 (M 23.1, SD 3.0) who indoor tanned at least once in the past year. Women completed self-report measures of IT behavior, IT attitudes/perceptions, social exposures (peer tanning, marketing/advertising exposure), and psychological aspects of IT (IT to improve mood, perceived IT rewards, IT dependence symptoms). Women were classified as event tanners (i.e., IT for special events, 41.6%), seasonal tanners (i.e., IT in non-sunny seasons, 40.0%), or regular, year-round tanners (18.4%). Bivariate analyses examined differences in behavioral and psychosocial factors across these groups. Multinomial logistic models were then created by adding predictors in 4 steps: 1) demographic and behavioral factors; 2) IT attitudes/perceptions; 3) social exposures; 4) psychological aspects of IT. The model significantly improved at steps 2 and 4 (model χ^2 p 's < .05). In initial models, seasonal and regular IT were associated with more frequent IT and more positive IT attitudes. In the final model adjusting for all other predictors, compared to event tanners regular tanners tanned more frequently (OR 2.65, p = .015) and regular tanners (OR 4.31, p = .002) were more likely to report IT to improve their mood. Regular tanners also endorsed more IT dependence symptoms than event tanners (OR 1.61, p = .002). These findings highlight attitudinal and psychological factors that are important IT preventive intervention targets among young women at high behavioral risk. In regular indoor tanners, intensive intervention may be needed to address reward-based IT motives and potential IT dependence.

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Symposium 60A

Symposium 60C

SOCIOCULTURAL EXPERIENCES, BODY IMAGE, AND INDOOR TANNING AMONG YOUNG ADULT WOMEN

Dr. Jerod L. Stapleton, PhD

The use of artificial ultraviolet radiation-emitting indoor tanning beds is associated with an increased risk of skin cancer. Despite the risks, an estimated 30 million people use indoor tanning beds each year in the United States, including nearly 1 in 3 young adult Caucasian females. Prior research has shown that several sociocultural variables are related to indoor tanning behavior, including the perception that indoor tanning is common and accepted among one's peers, friends, and family. The purpose of this research is to apply constructs drawn from sociocultural theories of body image to examine whether the association between sociocultural experiences and indoor tanning is mediated by indoor tanning users' body image. We evaluated a comprehensive model of sociocultural influences and body image on indoor tanning intentions and behaviors using structural equation modeling of survey data. Participants were 823 young adult women recruited from a probability-based United States web panel hosted by the survey research firm GfK Knowledge Networks. Consistent with our hypothesized model, we found that internalization of tanning and peer experiences were indirectly associated with both number of lifetime indoor tanning sessions and future intentions to tan as mediated through tan surveillance and tan dissatisfaction. Secondary regression analyses revealed that tan dissatisfaction was associated with an increased likelihood of reporting indoor tanning in the past year among participants who had ever used a tanning bed in their life. Findings suggest the importance of assessing body image constructs in indoor tanning research. In addition, indoor tanning interventions may benefit from targeting related constructs for mechanisms of behavior change as has been done in successful interventions for other health behaviors including: combating media and peer pressure to tan, targeting body image beliefs, and providing strategies to bolster body esteem.

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Symposium 61

1:45 PM-3:00 PM

BEHAVIORAL RESEARCH AT A CROSSROADS: PARTICIPANT ENGAGEMENT IN BENCH, BEDSIDE, AND COMMUNITY-BASED STUDIES

Eun-Shim Nahm, PhD, RN, FAAN¹, Karen Wickersham, PhD, RN¹, Patricia Woltz, PhD, RN², Kelly Flannery, PhD, RN³, Kristen Rawlett, PhD, FNP-BC⁴, Barbara Resnick, PhD, CRNP, FAAN, FAANP¹

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Recently, health care research in the United States has undergone major changes, such as strong emphasis on translational and pragmatic research while recognizing the importance of efficacy trials. Now, medicine is gearing up toward precision medicine and population health. These changes have been fueled by advancement in biomedical technology and policy changes, such as the Accountable Care Act (ACA). One of the central points of these changes is patient empowerment and engagement. Patients in the current era are no longer passive receivers of care provided by clinicians or treatment interventions provided by researchers. Rather, they are active partners in determining optimal treatment options and collaborate with investigative teams during trials. These changes in trends profoundly affect the behavioral research realm that encompasses various scientific areas, including physiological and biological mechanisms, behavioral and social processes. Engaging participants in a variety of research settings in this dynamic health care environment proposes unique challenges and opportunities. In this symposium, four investigative teams that conduct research in cross-continuum of care, including bench, bedside, and community-based studies, will discuss specific pitfalls in engaging patients in their studies and strategies to overcome them. The first paper will address their findings from clinical cancer research that engaged advanced cancer patients focusing on their recruitment and retention strategies. The second paper will focus on effective approaches to motivate clinicians to participate in a pragmatic health information technology study that applied a rapid cycle research framework with a healthcare system. In the third paper, the researchers will present social cognitive theory-based strategies to engage specific underserved minority groups in health promotion studies in worksites. Finally, the fourth paper will share selected successful strategies for involving adolescents in a school-based trial. The summative findings from this session will provide clinicians and researchers with important practical and innovative strategies to engage participants in research across the continuum and prevent potential pitfalls.

Symposium 61A

CONDUCTING BIOBEHAVIORAL RESEARCH FOR PATIENTS WITH ADVANCED CANCER: METHODOLOGICAL CHALLENGES AND SOLUTIONS

Karen Wickersham, PhD, RN

Treatment adherence for persons with advanced cancer is critical to optimize patient survival and quality of life (QoL) but is often derailed by symptoms due to cognitive, biological, and behavioral responses to treatment. Adequate baseline and longitudinal data are crucial for designing interventions to improve QoL and reducing symptom burden; however, recruitment/retention of patients with advanced cancer in longitudinal research are difficult. Our purpose is to describe challenges and solutions to recruitment/retention of patients with advanced cancer in two biobehavioral research studies examining cancer-related symptoms. Study 1: Symptom data and peripheral blood for markers of inflammation were collected from newly-diagnosed patients receiving chemotherapy on the first day of therapy and every 3–4 weeks up to 6 months. Study 2: Symptom data, blood, and skin biopsies are collected from patients taking epidermal growth factor receptor inhibitors at specific time points over 4 months. Patients who were approached to participate in either study were summarized. Both studies had similar recruitment rates (Study 1 = 11.7%; Study 2=13.4%). Timing informed consent with baseline data collection prior to treatment initiation was a significant recruitment challenge for both studies. Possible solutions include tailoring recruitment to fit clinic needs, increasing research staff availability during clinic hours, and adding recruitment sites. Primary challenges for participant retention included premature patient death, transfer of care to another facility, and medical holds/changes in therapy. Solutions include flexible time/location of study visits (e.g., participant's home) and prioritizing survey order. Identifying solutions to these challenges will permit conduct of studies that may lead to identification of factors contributing to variability in cancer-related symptoms and development of tailored patient interventions for patients with advanced cancer.

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Symposium 61B

APPLICATION OF THE RAPID CYCLE RESEARCH FRAMEWORK IN AN INTEGRATED HEALTH IT SYSTEM IMPLEMENTATION

Dr. Patricia Woltz, PhD, RN

Currently many healthcare organizations nationwide are implementing integrated health information systems (IHIS) to improve health care quality and efficiency. This presentation will report findings from a study that applied a rapid cycle research framework (RCRF) to implementing an electronic patient education program (AskMe4) within a large healthcare system. The presenters will specifically discuss important lessons learned to engage clinicians into pragmatic research that involved a real-world health information technology system. The aim of the study was to assess usability and perceived efficiency of AskMe4 using an online survey of nurses in a selected hospital. Based on the findings, other hospitals will go live with the improved program, and the study will be replicated. The survey included items on general aspects of program usability (e.g., ease of use) and effectiveness and efficiency (e.g., patient education outcomes, time spent for teaching). The project was guided by the 6 steps of RCRF: (1) Problem identification; (2) Problem exploration; (3) Knowledge exploration; (4) Solution development; (5) Solution testing; and (6) Implementation/Dissemination. Among 567 nurses, 147 (mean age, 47) completed the survey. The average years of practice was 10.7 ±9.03. Of those, 63.1% reported having used AskMe4 since its implementation (9 months). The responses on the 14-item usability questionnaire showed that most nurses were either neutral or favorable of AskMe4. Participants also provided many helpful comments that were grouped as: training (36), usability of design (10), content (3), and others (6). Findings from the process evaluation revealed issues related to the structure of AskMe4 within IHIS and different work practices within healthcare system. The stakeholders identified specific challenges for the rapid cycle project, including clinicians' workload, survey fatigue, and lack of program knowledge. They also provided strategies to motivate clinicians to participate in the study, such as use of governance councils. Limitations of the study include the length of the survey and self-report only methods. Overall, the findings provided valuable information for engaging clinicians in studies that require rapid cycles.

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Symposium 61C

PARTICIPANT ENGAGEMENT IN COMMUNITY-BASED STUDIES: SPARKING ENGAGEMENT AND KEEPING THE FIRE GOING

Kelly Flannery, PhD, RN

Worksite health promotion (WHP) is an effective way to engage otherwise difficult to access populations (e.g., unhealthy, low-income, minority individuals) in exercise, nutrition, and stress management interventions to reduce cardiovascular disease risk. This presentation will discuss findings from focus groups after a 6-month pilot exercise and nutrition WHP study with nursing assistants recruited from two long-term care facilities (n=39) and how the findings were used in the next 18-month trial. Three months after the pilot intervention was completed all participants were invited to participate in focus groups and three focus groups with 12 (67%) participants were completed. Forty codes and four themes emerged: motivation to participate in a WHP program, facilitators and barriers for program participation, and suggestions for future programs. The next trial, which is ongoing, is a four site, 18-month physical activity, nutrition, stress management WHP study in long-term care facility staff (n=100). Both programs were grounded in self-efficacy theory and the social ecological model and the current 18-month program used novel activities to engage participants. Specific strategies used in the 18-month project that enhanced study recruitment (site recruitment goals were reached within 1 to 4 weeks) and intervention engagement (daily intervention participation rates as high as 75%) were visually appealing self-efficacy message boards, motivational messages sent via email and text, recording intervention components (e.g., exercise sessions) and sending these recordings via weblinks to the participants so they could engage in program activities in the absence of the interventionist, creating dyad partners, providing healthy food as incentives for winning competitions, creating interventions that reduced barriers (e.g., stress management component), and using paid work time for all activities. In summary, theory based intervention activities sparked interest in the program and has kept participants engaging in the program.

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Symposium 61D

REACHING AT-RISK ADOLESCENTS IN A TRIAL TESTING EFFECTS OF MINDFUL INTERVENTION

Dr. Kristen Rawlett, PhD, FNP-BC

Adolescence is a vital time for behavioral interventions; however, engaging teenagers in research can be challenging. This presentation discusses challenges and strategies engaging high risk adolescents in a trial that assessed preliminary effects of a mindfulness-based intervention on adolescents' coping skills and affect and mindfulness behaviors. In this pilot study, adolescents were randomized in a 6-week Mindfulness Curriculum group and an Attentional Intervention group. Twenty three sixth grade females were recruited from a public boarding school for at risk youth. There were no significant differences between the two intervention groups at baseline. From before to after the interventions, positive affect increased significantly [$F(1,17) = 10.675, p = 0.003$] did not change over time. During the trial, we faced a few challenges in recruitment, such as a complex scheduling issue to work with parents having multiple jobs and limited transportation. Thus, allocation of enough resources for recruitment is vital. Although the sample size was small, adolescents were highly engaged in this study evidenced by the retention rate, 95% ($n = 22$). Providing the interventions in the school setting was a success factor as parents did not have to provide additional transportation or arrange for time off work. In addition, we engaged school staff, parents and the students in identifying the intervention needs prior to the study. Thus, participants and families reported that they learned needed skills. In community-based research, building trust with stakeholders is vital. For the adolescent population, successful engagement of parents, instructors, and school employees can lead to developing successful interventions that can yield high outcomes.

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Symposium 62

1:45 PM-3:00 PM

AGING WELL: OPTIMIZING PHYSICAL FUNCTION AND COGNITIVE HEALTH

Neha Gothe, PhD¹, Susan Aguiñaga, MS², Diane K. Ehlers, PhD³, Barbara Resnick, PhD, CRNP⁴, Jack Rejeske

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Susan Aguiñaga¹ MS; Diane Ehlers², PhD; Barbara Resnick³, PhD, CRNP

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The incidence of functional limitations and disability increases with age and chronic disease; more than 34% of adults aged 65 and older report limitations with even the most basic activities of daily living such as bathing and dressing. Such decrements, coupled with the risk of decline in cognitive function with age, can result in loss of independence and compromised quality of life. This symposium brings together researchers working with older adults living in the community as well as assisted living facilities, and using diverse research methodologies to optimize physical function and cognitive health using physical activity interventions among these older adult populations. The speakers will present data that spans from understanding health perceptions using qualitative focus groups, to evidence from rigorous physical activity based randomized controlled trial that examines the interplay of cognition and function, to ultimately the implementation and dissemination of programs to enhance functional fitness and well-being of older adults. The symposium will conclude with an open discussion regarding challenges in implementing physical activity programs in these populations to optimize physical and mental health and directions for future research, translation and dissemination.

Symposium 62A

OLDER LATINOS' PERCEPTIONS OF COGNITIVE HEALTH AND THE ROLE OF PHYSICAL ACTIVITY AND NUTRITION

Susan Aguiñaga, MS

Latinos have twice the incidence of Alzheimer's disease (AD) compared to whites, and the number of Latinos in the U.S. with AD is projected to increase by 600% in the next 50 years. Older adults appear uninformed about cognitive health and how physical activity (PA) and diet can influence cognitive health (CH). Thus, focus groups (FGs) were conducted with older Latinos to determine older Latinos' perceptions of CH and the relationship between CH and health behaviors. Four FGs were conducted among Spanish-speaking Latinos, FG1 [N=9, 67.3 ± 5.8 years old, 88.9% female]; FG2 [N=3, 60.7 ± 3.8 years old, 66.7% female]; FG3 [N=7, 63.1 ± 4.8 years old, 71.4% female]; and FG4 [N=7, 66.0 ± 6.8 years old, 71.4% female]. FGs were audio-recorded, transcribed in Spanish, and translated to English. Themes were generated from a directed content analysis. Atlas.ti software was used to analyze responses related to CH and health behaviors. Themes found were: (1) concerns about CH; (2) strategies to prevent memory loss; (3) reasons for health modifications; and (4) barriers to modifying behaviors. Forgetting daily life details were a main concern regarding CH. Other worries were losing independence, developing AD, and permanent memory loss. To prevent decline, participants cited general mind activities as the main modification related to CH. Social interactions and diet were also cited as a way to prevent memory loss. Reasons that participants stated for changing habits to healthier ones were mostly related to family and self-care, but also to health conditions, like diabetes. The most cited reasons for not modifying behavior were having negative habits as part of family traditions, lack of motivation and caregiving. Findings suggest that older Latinos may not be aware of the link between PA, diet and CH. Future interventions may include information regarding how health modifications, specifically PA and diet affect CH. Funded by Alzheimer's Association (NIRGD-11-205469)

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Symposium 62B

DOES BASELINE EXECUTIVE FUNCTION PREDICT CHANGE IN LOWER-BODY STRENGTH IN OLDER ADULTS ENROLLED IN AN EXERCISE TRIAL?

Dr. Diane K. Ehlers, PhD

Older adults with higher levels of executive function have been reported to experience better improvements in mobility following an exercise program. Less is known about the relationship between executive function and other domains of physical function, such as lower-body strength. The present study determined if baseline executive function (working memory, processing speed, attentional flexibility) predicted change in lower-body strength in older adults participating in a 6-month randomized exercise trial. We hypothesized that better baseline executive function would be predictive of better strength at 6 months. Participants were 191 older adults (*Mean* = 65.71) enrolled in one of three exercise conditions: Dance (*n*=51), Strength/Stretching/Stability (*n*=51), Walking (*n*=89). At baseline, working memory, processing speed, and attentional flexibility were measured using computer-based neuropsychological tests. Working memory and processing speed composite scores were calculated from the Salt House Battery. Attentional flexibility was represented as global cost in reaction time on a task switch test. Lower-body strength was measured at baseline and 6 months using a 30-second chair stand test. Changes in strength across the intervention were examined using multivariate analysis of variance. Predictive models were analyzed using multiple linear regression controlling for gender, age, education level, group, baseline cardiorespiratory fitness (peak VO_2), and baseline strength. Significant time and time*group effects were observed for chair stand performance, $p < 0.001$, with the Walking group demonstrating the greatest improvement over the intervention. Working memory was significantly associated with chair stand performance at follow-up, $\beta = 0.16$, $p = 0.01$, $R^2 = 2.3\%$. Higher peak VO_2 and chair stand performance at baseline also predicted performance at 6 months, $p < 0.10$ and < 0.001 . No associations were observed between the other executive function or demographic variables and lower-body strength. Findings suggest age-related declines in working memory may impact lower-body strength in addition to mobility. Further research in this area is warranted to develop optimal strategies for mitigating the functional impacts of cognitive and physical declines with advanced age.

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Symposium 62C

DISSEMINATION AND IMPLEMENTATION OF FUNCTION FOCUSED CARE-ASSISTED LIVING

Barbara Resnick, PhD, CRNP

Assisted livings settings are residential settings that provide housing and supportive services for older and disabled adults. Although these individuals are less functionally impaired than those in nursing home settings, they engage in limited amounts of physical activity and experience more rapid functional decline than their peers in nursing homes. Function Focused Care for Assisted Living (FFC-AL) was developed to prevent decline, improve function and increase physical activity among residents living in these settings. FFC-AL, a Social Ecological Theory and Theory of Self-efficacy approach, was implemented by a research nurse facilitator working with an identified champion in each of the settings to implement the following four steps: (I) Environment and Policy Assessments; (II) Education of staff, residents and families; (III) Developing Function Focused Service Plans for Residents; and (IV) Mentoring and Motivating the Staff and Residents. The purpose of this study was to disseminate and implement the previously established, effective FFC-AL approach to 100 assisted living (AL) settings. Evidence of successful dissemination and implementation FFC-AL across these settings was established using the Reach, Efficacy, Adoption, Implementation, and Maintenance (RE-AIM) model. Settings were eligible to participate if they had more than 8 beds and identified a nurse champion to facilitate the implementation process. Setting recruitment was done via mailed invitations to 300 eligible ALs and emails to relevant AL organizations. Evidence of Reach was based on our ability to recruit 99 ALs with adoption of the intervention in 78. There was a significant improvement in policies supporting function focused care and in establishing environments that supported function focused care and there was evidence of enduring changes in settings indicative of maintenance. We were able to implement all aspects of the intervention although challenges were identified. Future work should focus on using more face-to-face interactions with champions along with identified stakeholders, evaluating characteristics of champions to establish those who are most successful and recruiting residents to obtain resident specific outcomes.

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Symposium 63

1:45 PM-3:00 PM

PEER SUPPORT: CHANNELS OF DISSEMINATION

Andrea Cherrington, MD MPH¹, David Simmons, FRACP FRCP MD², Diana Urlaub, MPH³, Patrick Y. Tang, MPH⁴, Steven Peskin, MD, MBA, FACP⁵

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Evidence supports the value of peer support (from Community Health Workers, *promotores de salud*, volunteers) in prevention and disease management, but population dissemination is a challenge. Worldwide, the 387 million people with diabetes would require 774,000 full-time workers each with caseloads of 500. If each supported 10 patients, 39 million volunteers would be needed. In addition to chairing the symposium, Cherrington will describe development of fee for service peer support programs being developed in Birmingham, Alabama that link community-based organizations with large health systems. The paper by Tang and colleagues describes the integration of eHealth – in particular the well established BlueStar program of WellDoc – as a means of extending the reach and efficiency of peer support for diabetes. Formative evaluation has guided the development of a protocol for testing in an insured population of adults with varied levels of need for improving diabetes management. The paper by Urlaub and colleagues describes staging peer support in primary care with a goal of reaching the entire population of 3,787 Latino adults with diabetes served by a federally qualified health center, Alivio Medical Center, in Chicago. Stratifying intensity of peer support by patients' level of need enabled 8 *Compañeros en Salud* to reach over 85%, leading to significant improvements in glucose control. Simmons will describe how a trial among volunteer peer support facilitators has led to a pilot service run by Diabetes UK, the national diabetes organisation, across 7 English counties. Innovative blending of interventions (peer support with eHealth), strategic deployment of resources (level of peer support by level of need), and translation from research to service delivery offer directions for addressing the formidable challenges of dissemination to populations.

Discussant: Steven Peskin, Innovation Center of Horizon BCBS of New Jersey

Symposium 63A

TYPE 2 TOGETHER: ROLLING OUT GROUP PEER SUPPORT BASED UPON RAPSID- RANDOMISED CONTROLLED TRIAL OF PEER SUPPORT IN TYPE 2 DIABETES

Professor David Simmons, FRACP FRCP MD

Diabetes peer support has been proposed as a way to improve diabetes management. We tested whether different diabetes peer support strategies can improve metabolic and/or psychological outcomes. We performed a 2x2 factorial randomised cluster controlled trial in England. People with type 2 diabetes were invited to participate as either 'peer' or 'peer support facilitator' (PSF) through postal invitation predominantly from general practice. Clusters, comprised of parish council areas, were each randomly assigned to one arm of group, 1:1, both group and 1:1 or control interventions. The intervention was delivered over 8-12 months by trained PSFs, supported by monthly meetings with a diabetes nurse. Our primary end point was HbA1c. Main factors were either 1:1 or group intervention. Analysis was by intention-to-treat (ITT) adjusting for baseline.

Participants (n=1,299) were recruited across 130 clusters. The 4 arms were well matched (Group n=330, 1:1 n=325, combined n=322, control n=322); 1035 (79.7%) completed the mid-point postal questionnaire and 1064 (81.9%) had a final HbA1c. Mean baseline HbA1c was 57 mmol/mol (7.4%), with no significant change across arms. Systolic blood pressure was reduced by -2.3 mm Hg (-4.0 to -0.6) among those allocated group peer-support and -3.0 mm Hg (-5.0 to -1.1) among those who attended group peer-support at least once. There was no impact on other outcomes by ITT.

In view of the blood pressuring lowering effect, the national diabetes organisation is rolling out the group intervention across 6 other counties. The intervention has adapted the trial programme with increased educational content and a selection of optional topics with new materials. A diabetes nurse/dietitian with administration support now operates in each area. A PSF recruitment and training programme is in place. Participants have been recruited through a variety of avenues including primary care. Evaluation will use the RE-AIM framework.

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Symposium 63B

A DISSEMINATION MODEL FOR PROMOTORES DE SALUD IN PRIMARY CARE REACHING POPULATIONS OF PATIENTS WITH CHRONIC DISEASE

Diana Urlaub, MPH

Peer support from *promotores de salud* or community health workers is an effective strategy to reach patients who are not receiving the care they need. Here we report a two-year implementation project with a federally qualified health center serving approximately 23,000 Latino patients in Chicago. *Mi Salud es Primero* (MSP) was designed to reach the entire population of adult patients with diabetes (n=3,787), to provide ongoing peer support for diabetes self-management, increase access to/ utilization of clinic and community resources, and improve clinical outcomes. A diabetes registry and electronic health records were used to identify and stratify the intended population. All patients were contacted by *promotores* called *Compañeros en Salud* (CES). Regular care included quarterly CES contacts by phone, group classes, and CES contacts during clinic visits. A High Need group (n=471; HbA1c >8%, elevated psychosocial needs, or physician referral), received biweekly CES contacts for 6 months and then monthly until they no longer met criteria or progress had stabilized. MSP was successful at engaging the population of diabetes patients. Eight CES engaged 88% of the 471 High Need patients and 82% of 3,316 patients receiving only Regular Care. On average, each CES managed a case load of 490 patients. A total of 19,188 contacts were documented amounting to approximately 5,965 hours of peer support provided (mean = 18.7 minutes). The number of contacts per patient ranged from 1 to 44 with a mean of 5.60 (SD=5.15) contacts. HbA1c showed modest declines from 8.22 to 8.14% (population of patients with diabetes). In the High Need group, HbA1c declined from 9.43 to 9.16% (p < 0.01). In regression analyses, number of contacts with CES was associated with lower HbA1c ($\beta=-0.24$, p < 0.05), and the rate of decline in HbA1c over time for the High Need group was significantly greater than that of Regular Care ($\beta=-0.19$, p < 0.001). With caseloads of approximately 500, reach to over 80% of intended population, clinical changes across that entire population, and patient engagement associated with positive outcomes, MSP and the CES appear to provide a disseminable, effective model for improved chronic care management in primary care.

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Symposium 63C

HIGH TECH / SOFT TOUCH: USING EHEALTH TO DISSEMINATE LAY HEALTH COACHING

Mr. Patrick Y. Tang, MPH

eHealth is a powerful way to enhance, mobilize, and expand lay health coaching, which has the potential to improve health outcomes, reduce costs, and improve population health. This high tech / soft touch model can improve the health of populations by mobilizing health coaching and other health care resources to target high need patients while providing a standard of care to the bulk of the population. There are many reasons to believe that this model can disseminate lay health coaching to entire populations of people living with chronic diseases, while appealing to provider groups that are looking to offer comprehensive, cost-effective, population-focused health management services.

This presentation provides the rationale and analysis of a health coaching and eHealth pilot program for adults with type 2 diabetes, delivered in a patient-centered medical home setting.

Symposium 64

1:45 PM-3:00 PM

HARNESSING THE POWER OF PREDICTIVE LEARNING TO PROMOTE HEALTH BEHAVIOR CHANGE: DEVELOPING AND TESTING NOVEL TECHNOLOGY

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Lasting changes in health behaviors, such as eating and physical activity, have been notoriously difficult to achieve. Though behavioral treatments are effective in producing health behavior change, most in-person interventions fall short of reaching desired outcomes. A growing body of research highlights the potential for several novel methods (e.g., smartphone applications, mathematical modeling, automated sensors). These advancements can be used to deliver health behavior interventions that are customized, adaptive, and in the exact moment of need (e.g., Just-in-Time-Adaptive-Interventions). Given that key changes to health behaviors occur outside of the traditional treatment setting, it appears that new tools, such as sensor detection and machine learning, have vast potential for revolutionizing the field. However, researchers are just beginning to discover the intricacies of developing and testing this technology. The goals of this symposium are to: 1) describe several types of technology (e.g., apps, eating sensors, mathematical modeling, machine learning) with the overarching purpose of predicting and preventing negative health behaviors; 2) discuss the methodology used to develop and test these technologies; and 3) present preliminary results on feasibility, acceptability, and effectiveness. First, we will present on the development and initial results of a project utilizing machine learning to develop a just-in-time smartphone-based system for dietary adherence. Next, we will present data from smartphone app and wrist wearable that uses automated micro-randomization to define “ambitious but doable” daily step goals based personal and contextual factors. Our last presenters will describe data from a case study using a Pebble watch, Microsoft wristband, and neckworn camera to automatically detect and intervene on eating behavior. Our discussant will integrate findings and discuss future directions. All together, the data presented suggest that predictive learning can be achieved through many methodologies that are practical and effective modalities for health behavior change interventions.

Symposium 64A

A PRELIMINARY INVESTIGATION OF A PERSONALIZED RISK ALERT SYSTEM FOR WEIGHT CONTROL LAPSES

Dr. Evan Forman, Ph.D.

Lack of success in weight loss programs can be attributed to lack of adherence to dietary recommendations, i.e., dietary lapses. Lapses have been linked to a select group of internal and external cues, suggesting that lapse prediction and prevention are possible, given sufficient data. As such, we have set out to create a smartphone-based system called *DietAlert* that utilizes machine learning to predict lapse behavior with increasing accuracy, and to deliver tailored, momentary interventions. We will describe our theoretical rationale; our four phases of development; metrics and methods used to successively improve the system; and our multidisciplinary team structure (psychologists, biostatisticians, computer programmers, web developers, and graphic designers). For example, we will describe the development of an experience sampling component of the app and also report ongoing data collection to evaluate user interface and create an initial machine learning model. As such, we will report response compliance (97.9%), app satisfaction ($M=6.42/7.00$), lapse frequency ($M=27.16$, $min=2$, $max=52$), and strongest predictors (e.g., socializing, affect, tiredness) among overweight participants (current $n=12$) attempting to follow a weight loss diet (WeightWatchers). Participants used *DietAlert* to enter the presence/absence of potential lapse triggers and lapses 6 times per day for 6 weeks. In addition, we will report methods used to develop and compare supervised machine learning models, including variable extraction method (e.g., Elastic Net), selection of model (e.g., WEKA decision trees model C4.5), imputation of missing data (e.g., separate class approach) and indicators of success (e.g., maximal sensitivity). Finally, we will report on the development and implementation of tailored micro-interventions in *DietAlert*. Currently 159 pairs of 6-20-sentence interactive interventions have been developed. Clarity, satisfaction and effectiveness of the intervention-capable app will be presented. Overall, results will be used to evaluate the strengths and weaknesses of our development process and to comment on the potential of *DietAlert* and similar systems to meaningfully improve weight loss outcomes.

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Symposium 64B

JUST WALK STUDY: BUILDING A DYNAMICAL SYSTEM MODEL TO PREDICT “AMBITION BUT DOABLE” DAILY GOALS

Sayali Phatak, MS

Background: Smartphones and wearables support the possibility of just-in-time adaptive interventions (JITIs). One approach to developing a JITI is via control systems engineering methods, particularly system identification and model-predictive control. **Purpose:** This work aims to create a mathematically-specified dynamical model of social cognitive theory (SCT) to define an “ambitious but doable” daily step goal and corresponding reward points for any individual each day. **Methods:** A micro-randomized design based on system identification methodology was used whereby different daily step goals (between a baseline median and up to 2.5 a person’s baseline median steps) and available points if a goal is met (i.e., between 100 to 500 with 500 translating to \$1 in gift card funds) were randomly assigned. As of this writing, 21 participants are recruited for the 12 week study with results reported from participants that have completed 6 weeks ($N=10$). Participants are inactive, overweight Android users (90% women; $M=48.7 \pm 6.96$ years, $BMI=34.57 \pm 5.99$). Each participant was provided a Fitbit Zip and the Just Walk app (designed by the research team). Weeks 1-2 were used as a baseline measure of steps, and Weeks 3-12 as intervention. Location and calendar data (busy/free) was collected along with a battery of psychometric measures such as self-efficacy, outcome expectancies, perceived stress, barriers/facilitators of physical activity, and quality of sleep via ecological momentary assessment. **Results:** Baseline median steps averaged 4875 steps/day ($SE=803.20$), and median steps in Week 6 averaged 7063 steps/day ($SE=995.99$). There was an average 49.3% ($SD=20.24$) increase in mean steps/day from baseline to Week 6, and participants met 81.42% ($SD=19.6$) of their goals. **Conclusion:** Overall, results suggest good adherence to the intervention, and acceptable data for building a dynamical model. During the presentation, the speaker will provide visual descriptions of participants and discuss further results from this study, particularly how these data will be used to define a mathematically-specified and dynamic model of SCT for defining an ambitious but doable goal.

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Symposium 64C

A CASE STUDY IN NEW TECHNOLOGY-BASED APPROACHES TO EATING DETECTION, PREDICTION, AND INTERVENTION

Dr. Angela Pfammatter, PhD

Excess energy intake and poor quality diet are major contributors to chronic illnesses including obesity, diabetes, and cardiovascular disease. However intervening to improve eating self-regulation has been impeded by a reliance upon self-report as the primary method of eating assessment. Diet diaries, 24-hour recall, photographic recording of foods, and ecological momentary assessments are prone to measurement unreliability due to errors of omission and biased reporting. These methods are also highly burdensome and largely generate personalized behavioral information after the fact, i.e., once a problematic eating episode has concluded, rather than in time to prevent it. Technological advances in wireless communication, inertial sensors, automated image recognition, smartphones, and wearable devices allow continuous in-field passive sensing of behavior that can pave the way towards real-time, dynamic, personalized, preventive behavioral intervention. The hope is that these new technological capabilities will actualize the vision of just-in-time adaptive interventions (JITIs) that help people at the right time and in the specific way that is matched to their personalized needs at that moment. Achieving this vision requires collaboration between computer scientists, engineers, and behavioral scientists who employ different methodologies. This presentation will present an in-process case study that illustrates the application of computer science methods to the sequential problems of eating detection, eating prediction, and eating intervention. The presenters will use data from studies using a Pebble Watch, Microsoft Wristband, and neckworn camera to capture eating ground truth to demonstrate the application of machine learning techniques first to detect eating in real time, and then to develop algorithms that predict eating through the identification of eating triggers. The speaker will conclude by discussing the next steps and uncertainties that surround transitioning to a JITI to prevent problematic overeating.

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Symposium 65

1:45 PM–3:00 PM

PREVENTION, IDENTIFICATION AND MANAGEMENT OF CARDIOVASCULAR DISEASE AND CO-MORBID DEPRESSION: WHAT'S NEW?

Adrienne O'Neil, BA Hons PhD¹, C. Barr Taylor, BA, MD², Brian Oldenburg, BSc, Masters Clin Psych, PhD³, Kenneth E. Freedland, PhD⁴

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Mental disorders and cardiovascular disease (CVD) are the two dominant contributors to the global economic burden of Non Communicable Diseases (NCDs). Two of the most common NCDs, depression and coronary heart disease (CHD), are strongly highly comorbid, interactive and, share risk factors. Yet, given the strength of these inter-relationships, the opportunities for shared prevention, identification and clinical management have not been sufficiently prioritized. This symposium will present recent findings on some of new approaches, including:

-A new risk equation that more accurately assesses an individual's future risk of developing CHD by including depression as a parameter of risk

-A new approach for identifying 'clusters' of depression and anxiety in patients following an acute coronary syndrome (ACS) using a data-driven model

-A novel, technology-based intervention that targets mood management and cardiovascular risk reduction in ACS patients using "Virtual Health Coaching"

Each speaker will contribute expertise in disease prevention and management relevant to the field of behavioral medicine. These new approaches may assist in elucidating important pathways to these diseases that is crucial for guiding interventions and treatment going forward.

Symposium 65A

CONSIDERING DEPRESSION AS A RISK MARKER FOR INCIDENT CORONARY DISEASE

Dr. Adrienne O'Neil, BA Hons PhD

Background: Despite compelling evidence that depression precipitates Coronary Heart Disease (CHD) and predicts CHD-related mortality, this condition remains a neglected risk factor in the context of risk assessment in clinical and research settings. We sought to assess whether adding depression to the Framingham Risk Equation (FRE) improves accuracy in a sample of women. **Methods:** Data from the Geelong Osteoporosis Study comprising an age-stratified, population-based sample of women (aged 20–94 years) were utilized (n=859). Clinical depressive disorder was assessed using the Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders (SCID-I/NP) retrospective age-of-onset data. First non-fatal CHD was identified from hospital medical records used (Myocardial Infarction, unstable angina coronary intervention or cardiac death). Cox proportional-hazards regression models were used to test the effect of the: (1) established FRE predictors (2) plus depression on 10-year CHD events. Accuracy of the respective models was assessed using Area Under Receiver Operating Characteristic (ROC) curve analysis. **Results:** Age, blood pressure medication and depression were significant predictors of CHD events. ROC curve analyses revealed that the addition of baseline depression status to the FRE model improved its overall accuracy (AUC: 0.77, specificity: 0.70, sensitivity: 0.75) compared to the original FRE model (AUC: 0.75, specificity: 0.73, sensitivity: 0.67). **Conclusion:** The addition of a depression variable to the FRE equation improves the overall accuracy of the model for predicting 10-year CHD events in women.

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Symposium 65B

IDENTIFYING LATENT CLASSES OF MENTAL HEALTH SYMPTOMS FOLLOWING ACUTE CORONARY SYNDROME: A NEW APPROACH

C. Barr Taylor, BA, MD

Background: The American Heart Association now endorses depression as a risk factor for poor prognosis in cardiac patients. However, there is much about this relationship that remains poorly understood, particularly the impact of differential features of depression and anxiety. We employ a data-driven model to identify clusters of mental health symptoms in a clinical cohort of acute coronary syndrome (ACS) patients. **Method:** Study participants (N=414) were those enrolled in a prospective cohort study (ADVENT study) following hospitalisation for ACS. Participants completed self-report measures related to depression, anxiety and negative affect. Latent class analysis(LCA) was employed to identify classes of mental health symptoms and their respective clinical profiles. **Results:** Four clusters were identified using LCA: 1) 'Asymptomatic' (low on all dimensions); 2) 'Mild Anxiety' (exhibiting elevations in worry and trait anxiety); 3) 'Moderate Depression and Anxiety'; and 4) 'High Depression and Anxiety' (high on most or all dimensions). The poorest CHD risk profile was observed for those with 'High Depression and Anxiety.' Latent classifications accounted for up to two-thirds of the variance (66%) on dimensions of the SF-36. Additionally, ROC analysis was able to differentiate the 'High Depression and Anxiety' patients from both the total sample generally and the 'Moderate Depression and Anxiety' with high sensitivity and specificity, lending potential clinical utility to these findings. **Conclusion:** To our knowledge, this is the first study to employ such an approach with ACS patients. It provides initial support for the utility of dimensional models that are data-driven and person-centered.

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Symposium 65C

A NOVEL MOOD MANAGEMENT AND CARDIOVASCULAR RISK REDUCTION INTERVENTION FOR CARDIAC PATIENTS USING "VIRTUAL HEALTH COACHING"

Professor Brian Oldenburg, BSc, Masters Clin Psych, PhD

Background: For Acute Coronary Syndrome (ACS) patients, participation in a secondary prevention and/or cardiac rehabilitation program is considered "best practice" for improving clinical and behavioural risk factors, thereby leading to improve survival and quality of life (QOL). Yet, referral to, uptake and completion of these programs, remains poor. The presence of depression and/or other negative emotions with ACS reduces participation in such programs and also decreases survival and QOL. Our randomized trials have demonstrated the effectiveness of human-delivered, telephone-coaching for improving self-management of lipids, smoking, physical activity, mood and QOL of ACS patients (e.g. COACH, MoodCare, Pro-active, MULTIFIT), yet their scalability remains challenging & costly. The rapid uptake of new digital technology provides a disruptive opportunity to address these barriers and to provide personalised and tailored programs to all ACS patients. **Methods:** A randomised controlled trial of a new technology platform that provides ACS patients with automated, interactive and individualised feedback from a computerised health 'coach' using artificial intelligence, voice recognition and machine learning. We evaluate the cost(effectiveness) and usability of this new program for improving clinical and behavioural outcomes within a defined population of ACS patients, compared to a control condition over 12months. **Results:** We outline the development and design of MICARE program, which is based on an earlier program for diabetes self-management that demonstrated: i) improved clinical outcomes, ii) ease of use and iii) excellent adherence. **Conclusion:** This new 'smart technology' platform could be highly scalable, sustainable and cost-effective while also complementing existing health service. Delivery for long term self-management of ACS. Importantly, this program has the potential to address current access barriers and provide key resources and support to all ACS patients regardless of location, age or socioeconomic position.

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Symposium 66

1:45 PM-3:00 PM

SKIN CANCER INTERVENTION ACROSS THE CANCER CONTROL CONTINUUM (SCI-3C): REVIEW OF NCI GRANTS AND THE SCIENTIFIC LITERATURE.

Frank Perna, EdD, PhD¹, Alan Geller, MPH², Barbra Dickerman, MSc³, Jennifer Taber, PhD¹, Dawn Holman, MPH⁴, Dawn Holman, MPH⁵

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The symposium quantitatively summarizes the skin cancer intervention research, both in the NIH/NCI grant portfolio and the published literature, to identify research gaps related to specific targets along the cancer control continuum. NCI's SCI-3C model, developed in response to the *Surgeon General's Call to Action to Prevent Skin Cancer (SG-CTA)*, provides a rubric to characterize intervention efficacy relevant to the cancer control continuum and to generally describe the methodologies deployed (i.e., use of theory, technology, and policy and built environment manipulations). A similar rubric has proved useful in furthering other behavioral intervention research (i.e., physical activity in cancer), but is lacking for skin cancer intervention. The session will convey results and foster discussion of research needs and methodological considerations specific to behavioral researchers.

Presentation-1 overviews of the SCI-3C model and the behavioral targets and outcomes at each point along the cancer control continuum. Descriptive data, derived from use of a structured coding protocol, characterizing the published literature with respect to intervention efficacy and the nature of dissemination research are presented. Presentation-2 provides data concerning methodology with respect to use of theory, technology, policy, and environmental manipulation underpinning the literature summarized in Presentation-1. Presentation-3, using a similar coding procedure, presents data on the NCI grant portfolio broken down by intervention target along the cancer control continuum and methodology proposed (theory, technology, policy, & environment). Data are also provided on funding success and research team characteristics.

Our CDC discussant, and SG-CTA contributor, will describe implications and moderate a dialogue concerning the match in research features between the literature and NCI grant portfolio.

Symposium 66A

SKIN CANCER INTERVENTIONS ACROSS THE CANCER CONTROL CONTINUUM (SCI-3C): THE NATIONAL CANCER INSTITUTE (NCI) GRANT PORTFOLIO.

Frank Perna, EdD, PhD

The *Surgeon General's Call to Action to Prevent Skin Cancer (SG-CTA)* broadly identified research gaps, but relating broad objectives more specifically to behavioral researchers is needed. Accordingly and in consultation with federal partners (e.g., CDC) and extramural investigators, we created the SCI-3C rubric to characterize grants targeting specific behaviors and relevant outcomes along the cancer control continuum and describe the methodology with respect to theoretical approach, technology use, and policy and built environment manipulation.

Method: The analysis included grants between 2000-2014 that used observational or interventional designs and targeted health behaviors or tested behavior intervention effect on cancer-relevant outcomes along the cancer continuum (i.e., prevention through survivorship). Following established portfolio analysis procedures, we established coding criteria and decision rules, trained coders, and scored each grant by independent coders. Results: 112 grants met inclusion criteria, 40 (35.7%) were funded, and 31 (77.5%) were interventions, including 20-R01, 7-R21, and 3-R03 grants. New Investigator awards were made to 35% of R01s. Among funded grants, 31 (77.5%) were interventions including 24 prevention projects targeting sun-safety (20) or indoor tanning (4), 4 screening, and 3 cancer survivorship intervention projects. Along the translational research continuum, there were 14 T-1, 10 T-2, and 7 T3/T4 intervention projects. Among the intervention grants: 97.6% (30) mentioned a theoretical framework, but only 45.2% (14) proposed mediation analyses, and even fewer 22.6% (7) had theoretical elements mapping clearly onto intervention components. 74.2% (23) used some technology, involving mostly internet (61.3%) but few grants leveraged internet capabilities (i.e., social media 6.5% (2), Apps 6.5% (2)). Text messaging occurred in 16.1% (5) grants and EMA in 6.5% (2). 19.4% (6) included policy change/implementation, and 25.8% (8) proposed change in built environment (signs & shading). We discuss the skin cancer portfolio in comparison to other health behavior intervention at NCI and opportunities to advance skin cancer prevention research.

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Symposium 66B

SKIN CANCER INTERVENTIONS ACROSS THE CANCER CONTROL CONTINUUM (SCI-3C): REVIEW OF THE LITERATURE, 2000-2015

Barbra Dickerman, MSc

The general efficacy of skin cancer intervention has been reported. However, characterizing the evidence base for specific *behavioral targets* (e.g., tanning, sun protection, screening) and *outcomes* (e.g., sunburn, skin exams, nevi, cancers) across the cancer control continuum may best reveal gaps and further research.

A team of extramural and NCI scientists established behavioral targets, outcomes, and inclusion criteria for studies published in peer-reviewed journals from 2000 to 2015 (N=87). Articles were excluded if their endpoints were not behaviors or if a report of the same intervention with longer follow-up was available. 60 articles targeted prevention behaviors, 7 targeted screening behaviors, and 13 targeted both. Only 7 of 87 studies focused on dissemination.

Of the 73 prevention studies, 31 targeted pediatric (43%) and 42 targeted adult populations (58%). Targeted behaviors included sunscreen (n=64), protective clothing (n=49), hat (n=48), shade (n=38), midday sun avoidance (n=27), sunglasses (n=21), sunbathing avoidance (n=15), indoor tanning avoidance (n=12), and minimizing incidental sun exposure (n=10). Of the 33 studies (45%) that included a composite behavior score, most (n=27) achieved a significant improvement (as reported by the authors). Of 31 studies (42%) with objective outcomes (e.g., sunburns, change in nevi), significant impact was reported in 9 studies of sunburn and 1 of skin darkening.

Of the 20 screening studies, 14 targeted high-risk groups (e.g., melanoma patients, age ≥50) and 6 targeted the general population. Outcomes were self-reported skin self-exams (n=21) or clinical skin exams (CSE; n=6), or clinician report/medical record data on CSE (n=2). Significant effects were reported for 15 measures (52%).

A breadth of interventions focused on skin cancer prevention and screening, with far more focused on single site interventions than on dissemination or community settings. We discuss essential intervention qualities, opportunities to improve study methodology, and implications for intervention development and translational research to inform the field.

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Symposium 66C

PRESENCE OF THEORY, TECHNOLOGY, AND ENVIRONMENTAL MANIPULATIONS IN PUBLISHED SKIN CANCER INTERVENTIONS FROM 2000-2015

Dr. Jennifer Taber, PhD

The National Cancer Institute's Skin Cancer Intervention across the Cancer Control Continuum (SCI-3C) model was developed to summarize research and identify gaps concerning skin cancer interventions. As part of the SCI-3C activity, we reviewed the published literature to characterize whether interventions promoting behaviors to reduce skin cancer risk included 1) technology, 2) environmental manipulations (policy and/or built environment), and 3) a theoretical basis. Studies focusing on dissemination of interventions were also identified.

We identified 87 articles that met inclusion criteria of being published from 2000-2015 in peer reviewed journals, having a randomized controlled or quasi-experimental design, and targeting behavioral intervention in skin cancer. Only 7 studies focused primarily on dissemination. Of the remaining 80 articles, 60 focused on promoting primary prevention behaviors (e.g., UVR protection), 7 focused promoting screening (e.g., skin examinations), and 13 focused on prevention and screening.

Thirty studies reported National Cancer Institute funding. Of the 80 prevention and screening studies, most used some type of technology (67.5%). Of skin cancer specific technology, UV photos were used in 15% of studies, reflectance spectroscopy was used in 12.5%, and dermoscopes and light dosimeters were used in

A majority of interventions were theory-based, but use of skin cancer specific technology was low, and few studies targeted policy or the environment. We discuss how the use of environmental manipulations, technology, and theory compares to that in the NCI grant portfolio, and offer suggestions to advance skin cancer prevention research.

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Symposium 67

1:45 PM-3:00 PM

A HEALTHY START – EMERGING RESEARCH ON THE ROLE OF PRENATAL HEALTH ON MATERNAL AND CHILD HEALTH OUTCOMES

Lisette Jacobson, PhD, MPA, MA¹, Bernard Fuemmeler, PhD, MPH, MS², Lisette Jacobson, PhD, MPA, MA¹, Michelle Redmond, PhD¹

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Research evidence suggests that maternal behaviors such as smoking, poor diet, physical inactivity, overweight/obesity, and excess gestational weight gain increase the risk of long-term adverse health outcomes for both mother and child. In the US, sixty percent of women enter pregnancy overweight or obese increasing the risk for pregnancy and birth complications including gestational diabetes, gestational hypertension, pre-eclampsia, preterm birth, and cesarean delivery. Yet, many reproductive-age women do not actively attempt to lose weight due to lack of understanding how maternal risk factors affect pregnancy and birth, lack of access and availability of prenatal care, and lack of knowledge to manage weight. Current approaches to manage weight among reproductive-age women are somewhat effective, yet little is known about perceived barriers toward healthy behaviors during pregnancy and how these barriers would affect the child's development. Exploration of potential barriers is needed to determine appropriate techniques, design health promotion interventions, and facilitate healthcare providers' recommended guidelines to have a healthy pregnancy. The purpose of this symposium is to explore potential barriers to positive pregnancy and birth outcomes as well as their effect on child development. Bernard Fuemmeler will present on the role of prenatal diet and obesity on the child's neuro-developmental outcomes and present data from a community-based cohort. Lisette Jacobson will present findings of a multi-partner health collaborative to improve pregnancy and birth outcomes among reproductive-age women in an extremely underserved frontier rural region. Michelle Redmond will present study findings on the perceived risks and challenges to maintaining recommended levels of prenatal physical activity and healthy dietary habits during pregnancy. Layla Esposito will synthesize study results and recommend components for future interventions that promote healthy behaviors among reproductive-age women.

Symposium 67A

PREPREGNANCY OBESITY, GESTATIONAL WEIGHT GAIN AND CHILD ATTENTION DEFICIT HYPERACTIVITY DISORDER SYMPTOMS

Bernard Fuemmeler, PhD, MPH, MS

Pre-clinical and epidemiologic data suggest that maternal high-fat diet and obesity may contribute to offspring neurodevelopmental, including ADHD symptoms. This purpose of this talk will be to 1) summarize existing literature examining the role of prenatal obesity and gestational weight gain on child neurodevelopmental outcomes and 2) present data from our ongoing community-based birth cohort.

Participants in this study were enrolled as part of the Newborn Epigenetics Study (NEST), a birth cohort designed to identify the effects of early exposures on developmental outcomes. Pregnant women were recruited from regional prenatal clinics from April 2005 to June 2011 ($n=2,667$). When children in the cohort were between 2 and 5.5 years old, 471 mothers completed a survey that included measures of ADHD symptoms (The Behavior Assessment System for Children) and related behaviors (The Behavior Rating Inventory of Executive Function). Analyses were restricted to $n=340$ for whom we had complete data. Inverse probability treatment weighting (IPTW), a propensity scoring method, was used to model the effects of BMI and gestational weight gain on child outcomes. IPTW mimics random allocation of "treatment" given a set of covariates. The treatment effects here were prepregnancy BMI and gestational weight gain categories. Covariates included parity, birthweight, child's age, gender, mom's age, race, education, gestational weeks, smoking and mother's ADHD symptoms. Results show that a higher prepregnancy BMI was associated with poor functioning related to Attention Problems on the BASC ($B = 0.21$, $p = 0.04$) and executive functioning on the BRIEF ($B = 1.51$, $p = 0.04$). Compared to recommended gestational weight gain, both less than and greater than recommended gestational weight gain was associated with poorer functioning related to Attention Problems ($B = 1.69$, $p = 0.02$; $B = 0.94$, $p = 0.01$, respectively).

The results align with a growing body of literature indicating that maternal obesity and excess gestational weight gain harm optimal neurodevelopment in children. The direction of future observational, mechanistic and intervention research in this area will be discussed.

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Symposium 67B

PIONEER BABY – MOVING TOWARD A HEALTH PROMOTION PROGRAM AMONG MULTICULTURAL RURAL WOMEN TO IMPROVE PREGNANCY OUTCOMES

Dr. Lisette Jacobson, PhD, MPA, MA

Pioneer Baby is a collaborative initiative between rural healthcare providers and public health agencies in frontier rural Kansas. Women experience an alarming rate of high-risk pregnancies including pregnancies complicated by gestational diabetes mellitus. Results of a community health assessment indicate that the majority of women were Hispanic, aged 18-25, high school educated, WIC enrolled, and earned

We are conducting six focus group sessions to assess what women value in a health promotion program during and after pregnancy. Rural pregnant women who receive prenatal care and/or give birth at a local critical access hospital (CAH) or a federally qualified health center (FQHC) were recruited to participate in the study. The research team completed a three-hour on-site training session to hospital/center personnel and distributed research toolkits in English and Spanish. Planned focus groups will be facilitated in English and Spanish. Each session is expected to have six to eight participants. Women will receive a \$20 gift card upon study completion.

Findings from the health assessment suggest that women are interested in participating in a health promotion program that starts during pregnancy and continues after birth. Program components women were mostly interested in are diet, exercise, breastfeeding support, and social support. Most women reported that they would use text messaging or the internet when participating in a health promotion program. We anticipate final focus group results by December 31, 2015.

This study's findings along with the health assessment results provide the foundational framework for future interventions that can (1) reduce the risk for high-risk pregnancies and (2) reduce the risk for developing cardiovascular disease among underserved, multi-cultural reproductive-aged rural women.

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Symposium 67C

CHALLENGES TO PRENATAL PHYSICAL ACTIVITY AMONG A MIDWESTERN POPULATION

Dr. Michelle Redmond, PhD

Objective Moderate physical activity during uncomplicated pregnancies supports a more healthful intrauterine environment for the fetus and better pregnancy and postpartum outcomes for the mother. Exercise is one of the few therapeutic interventions available to help make pregnancy less obesity-inducing. However, fewer than 20% of pregnant women meet the physical activity recommendation from the American College of Obstetricians and Gynecologists (ACOG). This study will explore perceived challenges to maintaining recommended levels of prenatal physical activity and healthy eating habits during pregnancy. **Design:** A Prospective cohort study was conducted to examine/identify the fears and barriers to prenatal exercise. **Setting:** Participants were recruited from 8 prenatal clinics and one health department parental program in Sedgwick County, KS. Structured telephone interviews were conducted by the research team staff. **Participants:** Ninety females with a singleton pregnancy between 16 to 30 weeks gestation were enrolled in the study. The population included women of minority race/ethnicity (16.7% were Black or African American, and 10% were Hispanic or Latino with the remaining participants identifying as Non-Hispanic White). **Main Outcome Measures:** Our primary outcome is barriers to physical activity and healthy eating. **Results:** Preliminary results indicate women who maintained at least 90 minutes or more per week of moderate physical activity during pregnancy were more likely to continue to exercise despite physical feeling tired $\chi^2(1, N = 90) = 5.01$, $p = 0.02$, bad weather $\chi^2(1, N = 90) = 4.54$, $p = 0.03$, or time commitments $\chi^2(1, N = 90) = 5.88$, $p = 0.015$ when compared to women who had less than 90 minutes of exercise per week during pregnancy. **Conclusion:** It is important to understand perceived barriers to physical activity in order to design and promote optimal exercise practices for patients.

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Symposium 68

1:45 PM-3:00 PM

IMPROVING PARTICIPATION IN CLINICAL TRIALS

Margaret M. Byrne, PhD¹, Jamie L. Studts, PhD², Mary Politi, PhD³, Aisha Langford, PhD, MPH⁴, Paul Jacobsen, PhD⁵

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The decision to participate in a clinical trial can be a difficult one for many patients and their families, and the clinical trial decision making process remains an understudied area. This interdisciplinary panel will provide an overview of factors that affect trial participation rates and interventions to support patients' decisions about trial participation. Ultimately, these interventions may improve patient autonomy and the quality of patient-centered decision making about this preference-sensitive choice. They may also improve rates of participation in clinical trials which is often very low. Low participation rates make it difficult to accrue sufficient patients to complete a study, increase costs of conducting trials, and reduce the generalizability of trial results.

The symposium chair will begin the session with a brief overview of participation in clinical trials. The first speaker will then describe a series of studies that developed and tested a decision aid (the CHOICES decision aid) to improve decision making for potential cancer clinical trial participants by focusing on improving patients' knowledge, empowerment, and values clarification about participation. A pilot RCT of the CHOICES decision aid compared with the NCI website on clinical trials explored whether CHOICES leads to a greater improvement in informed decision making. The second speaker will present a randomized controlled trial that compared CHOICES to an institution's web page, which presented information on cancer clinical trials; findings demonstrated greater knowledge, values clarity, and lower uncertainty about trial participation among the CHOICES group. The third speaker will present results from a study of the role of message framing in clinical trial decisions, examining whether highlighting race and health disparities improves minority patients' willingness to participate. The discussant will close the symposium by offering a summary and critique of current research on patients' participation in clinical trials, including the studies presented in this symposium. The symposium will conclude with a period for questions and answers among the presenters and attending audience.

Symposium 68A

A PATIENT-CENTERED DA FOR IMPROVING DECISION MAKING ABOUT CANCER CLINICAL TRIALS PARTICIPATION

Dr. Jamie L. Studts, PhD

Introduction: Clinical trials are essential for the development of new treatments, procedures and devices. However, participation in clinical trials is low, samples are often not representative, and potential participants may not be making informed decisions. Here we report the development, beta testing and pilot testing of the CHOICES decision aid (DA), which aims to improve decision making about participation in cancer clinical trials. **Methods:** The CHOICES DA was developed based on previous literature, a telephone survey of 1100 cancer patients, and semi-structured interviews with Black and Hispanic cancer survivors. The CHOICES DA was beta tested with 64 cancer survivors to assess whether knowledge and empowerment increased after exposure. Next, a pilot randomized clinical trial was conducted with newly diagnosed cancer patients to compare the impact of the CHOICES DA against an NCI clinical trials website on knowledge and decision preparedness. **Results:** Beta testing (n=64) revealed significant pre to post increases in decision preparedness, subjective knowledge of trials ($p < 0.001$), as well as objective knowledge of clinical trials ($p < 0.001$). In the pilot RCT (n=91), both intervention groups had significant improvements in subjective and objective knowledge. Individual knowledge items and ability to learn more about trials were significantly increased in the DA group, but not the NCI group. Finally, the NCI group had significantly lower ratings of overall willingness to participate after viewing the website (5.33 pre vs. 4.83 post; $p = 0.021$). **Discussion:** Results indicated that both interventions improved knowledge and decision preparedness. Changes in the Choices DA group were often larger in magnitude, and only the Choices DA appeared to improve patient empowerment. Newly diagnosed cancer patients should be assisted in their efforts to make informed decisions about trials participation, and a DA designed to improve decisions may be more useful than a website that does not include efforts to empower patients.

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Symposium 68B

SUPPORTING CANCER CLINICAL TRIAL DECISIONS: A RANDOMIZED STUDY EVALUATING THE CHOICES DECISION AID IN A DIVERSE SAMPLE

Mary Politi, PhD

Introduction: Clinical trials are considered the gold standard for evaluating medical interventions. However, enrollment rates in clinical trials are low. Improving communication about trials can reduce barriers to enrollment and retention and better support decisions about trial participation. This study evaluated the use of a decision aid to support decisions about trial participation in a randomized experiment. **Methods:** Participants were randomized to view either a decision aid (DA) about cancer clinical trials (CCTs) or our institution's website about cancer clinical trials (enhanced usual care; UC). Newly diagnosed cancer patients who had not previously enrolled in a CCT were eligible. After viewing the websites, participants completed a survey assessing demographic variables and our outcomes of interest: knowledge, self-efficacy for finding information about CCTs, decisional conflict (clear values and uncertainty subscales), behavioral intent to participate in CCTs, and perceptions of CCTs. We ran multivariable linear regression models examining group on our primary outcomes, controlling for whether or not participants had ever heard of CCTs and education. **Results:** Out of 234 eligible candidates approached, 201 (86%) consented to participate in the study and were randomized to view the DA or UC website. 176 participants completed the study (88% completion rate). In multivariable analyses, those in the DA group had higher objective ($p = 0.0002$), and self-perceived knowledge of CCTs ($p = 0.002$), higher self-efficacy for finding information about CCTs ($p = 0.0005$), less uncertainty about participation in CCTs ($p = 0.03$), and clearer values about whether or not to participate ($p = 0.0009$) compared to the UC group. There were no significant differences in patients' intent to participate in a CCT if one were offered or their perceptions of CCTs overall. **Discussion:** Results suggest that DAs about CCTs may support informed choices about trial participation. Future studies could follow patients over time to examine actual enrollment rates and explore results within specific cancer types.

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Symposium 68C

THE IMPACT OF MESSAGE FRAMING ON AFRICAN AMERICAN WILLINGNESS TO PARTICIPATE IN A HEALTH RESEARCH STUDY ABOUT PHYSICAL ACTIVITY

Aisha Langford, PhD, MPH

Objectives: The primary goal of this study was to evaluate the role of message frames on promoting clinical trials, and to examine how, if at all, health disparities information should be used in recruitment materials. **Methods:** We examined the impact of 5 message frames (impact, disparity no action, disparity with action, progress, and general) on African American willingness to participate in a hypothetical health research study related to physical activity. We also examined African American/White differences in willingness to participate using a general message frame without reference to race. **Results:** Among African Americans and Whites who received the general message frame, there were no differences in willingness to enroll in the hypothetical study. Among African Americans alone, there were no differences in willingness to participate in the study across the 5 message frames; however, younger age, female sex, attitudes about research, a sense of obligation, and community responsibility were significant predictors of willingness for this group. Regarding other types of research studies, there were no differences between African Americans and Whites in willingness to participate in studies that: only asked questions about health, required a blood sample, were related to genetics, required an overnight stay, or that involved medical equipment. However, African Americans were significantly less willing than Whites to participate in studies that involved taking medication, medical records being evaluated, and no compensation. **Conclusion:** Highlighting race and health disparities in the context of clinical trial recruitment may not be needed to increase interest in research among African Americans. Factors beyond race may be stronger motivators for participation.

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Symposium 69

1:45 PM–3:00 PM

DON'T PREACH TO THE CHOIR: REACHING THE UNDERSERVED BY INTEGRATING PHYSICAL ACTIVITY PROMOTION INTO PRIMARY CARE

Mona AuYoung, PhD, MS, MPH¹, Sherri Sheinfeld Gorin, PhD², Andrea Kriska, PhD, MS³, Melicia Whitt Glover, PhD⁴, M. Renée Umstattd Meyer, PhD, MCHES⁵, Sarah E. Linke, PhD, MPH⁶, Caroline R. Richardson, MD⁷

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Despite the association of physical activity (PA) with positive health outcomes, PA rates are suboptimal relative to national recommendations. PA rates are disproportionately low among racial/ethnic minorities, women, older adults, and rural residents. The Patient Protection and Affordable Care Act incentivizes physical activity counseling by primary care providers, creating opportunities to increase PA among these more sedentary populations. Yet, providers continue to report barriers to PA counseling (e.g., lack of time and skills) while sedentary patients have cited similar barriers to PA (e.g., lack of time, resources, social support). Within the socio-ecologic model, primary care providers may serve as a fulcrum to help sedentary patients to increase and sustain their PA behaviors. The aims of this symposium are to: 1) provide examples of key community-based PA interventions for underserved populations (including racial/ethnic minorities, women, older adults, and rural residents); and 2) discuss approaches for translating these effective community-based interventions to primary care for underserved populations. The first speaker will discuss new findings from recent translations of the Diabetes Prevention Program into multiple diverse communities, and the implications of these findings for primary care. The second speaker will present findings from a community church-based PA program with African American women. The third speaker will discuss the effectiveness of partnerships with *promotoras de salud* (community health workers) to assess and intervene in the environment to increase PA for rural Hispanic/Latino communities. The fourth speaker will discuss how collaborative efforts between clinicians and researchers, along with practical e-tools and routine screening, can catalyze the implementation of PA interventions in primary care. The discussant will explore the implications of these findings for primary care to reduce existing PA disparities.

Symposium 69A

THE ROLE OF PHYSICAL ACTIVITY IN EFFECTIVE LIFESTYLE INTERVENTIONS FOR HIGH RISK, SEDENTARY POPULATIONS

Dr. Andrea Kriska, PhD, MS

The highly successful Diabetes Prevention Program (DPP) provided evidence that lifestyle intervention can prevent or delay the development of type 2 diabetes and metabolic syndrome. This presentation will focus on physical activity (PA), which was a critical component of the lifestyle intervention. In order to maximize the benefits of this lifestyle intervention for those at-risk for developing these conditions, this effective behavioral intervention needed to be translated to “real world” settings. These high-risk populations also tend to be underserved with fewer resources, leading to lower rates of PA. First, lessons learned from the DPP will be presented, including new findings surrounding the investigation of PA rates in the DPP using accelerometry. Among DPP participants, 45% were at-risk racial and ethnic minorities, so differences in PA levels will be discussed along with results of studies of DPP translation into diverse community settings. A modified and updated comprehensive lifestyle behavior change program (adapted directly from the successful lifestyle intervention used in the DPP) was developed and evaluated in multiple community settings. A recent NIH study has also evaluated the effectiveness of this lifestyle intervention at a worksite, senior community centers, and a large military base, finding significant improvements in PA and weight loss, all of which was maintained one year later. Unique to these investigations has been the consideration of the older adult as an underserved population for which increasing PA levels may present distinctive challenges. Finally, there will be a discussion of necessary next steps in translating community-based PA research into primary care practice, with the consideration of “sitting less” as an activity goal for future translation efforts, particularly among the high-risk, underserved population which includes the older adult.

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Symposium 69B

HEALED! INCORPORATING HEALTH PROMOTION STRATEGIES IN FAITH-BASED SETTINGS

Dr. Melicia Whitt Glover, PhD

Physical activity (PA) offers many health benefits and reduces chronic disease risk. PA rates are disproportionately low and chronic disease rates are disproportionately high among racial/ethnic minorities, with the lowest rates of PA and highest rates of obesity among African American (AA) women. Physician counseling is a potential avenue to increase PA among AA women, who often seek health-related advice from trusted family and friends before/after or in addition to seeking physician advice. Culturally tailoring strategies to create interventions that resonate with communities of focus has been cited as important for improving health. Involving trusted partners in efforts to improve AA women's health could be a useful strategy. The LADIES for a Better Life study leveraged the central role of faith and the church, a known source of spiritual and physical support and advice for AAs. AA women (N=472) were recruited from 31 North Carolina churches. Churches were randomized to a faith-based (FB) or general intervention, or a control group (n = 10 churches/group). Both interventions included 25 group sessions over 10 months with women from their own churches to learn how to increase PA and provide social support. Control groups received written materials to review individually. After the 10-month intervention, FB participants significantly increased daily walking compared to the control group. After 12 months of follow-up FB participants maintained increases in daily walking over baseline levels compared to control participants. Session attendance and participant evaluations indicated high acceptance of the program. Pastors indicated feeling responsible for parishioners' health and appreciated a program to which they could refer them. To increase reach and enhance the sustainability of PA behaviors primary care providers may need to collaborate with trusted partners in community settings to deliver interventions where patients seek health care information and advice.

Symposium 69C

WHERE CAN THEY RUN AND PLAY? PROMOTORA PARTNERSHIPS IN RURAL ACTIVE LIVING ENVIRONMENTAL ASSESSMENTS

M. Renée Umstattd Meyer, PhD, MCHES

Underserved rural residents have low rates of physical activity (PA) and high rates of obesity. Environmental and policy strategies are supported approaches to prevent obesity, increase PA and promote health equity. Even though quantity and quality of rural-specific active living research is low, recent findings highlight trends in rural areas, including few and low quality PA resources. Thus, it is critical to understand a rural community's active living environment to better help community residents and leaders identify community resources and capacity for improving PA and health. Partnering with *promotoras*/community health workers (CHW) can improve implementation and utility of assessments. This presentation describes how to assess rural active living environments through partnerships with *promotoras*.

Promotoras are involved in all levels of assessment to ensure appropriate and meaningful measures, methods, data, and interpretation. *Promotoras* are trained to identify and assess quantity and quality of neighborhoods and PA resources in the community.

Promotoras de salud conducted active living assessments in 4 rural communities along the US-Mexico border and identified few PA resources. The most common resources were churches, schools and parks; although most families (n=121) had no PA resources near their home and most were low quality. Assessment results have been used to guide community health advisory board directives and *promotoras* have experienced empowerment and increased awareness and desire to positively impact their communities.

Understanding the active living environment is essential to improving PA and health in underserved rural communities. Engaging and training local residents as *promotoras*/CHWs allows for capacity identification, empowerment and capacity building. Further, these approaches could be incorporated into rural primary care practice, where resources are also extremely limited, to help physicians better understand their patients' complete health profiles when providing care.

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Symposium 69D

BRIDGING THE CLINICAL/RESEARCH GAP IN PHYSICAL ACTIVITY PROMOTION IN PRIMARY CARE CLINICS

Dr. Sarah E. Linke, PhD, MPH

Systematic reviews of evidence-based physical activity (PA) interventions in research settings indicate that the more effective interventions addressed multiple levels of change, including the individual, community, and environmental levels. Because of the importance of the physician's role in providing the prescription (or brief advice) of PA to the patient to initiate change, taking a similar multi-level socio-ecological approach to PA counseling within primary care may result in more effective counseling that reaches more people. Despite evidence for the cost effectiveness and broad reach of PA counseling delivered via primary care settings, physicians face multiple barriers such as limited time and resources. Primary care based approaches to PA counseling could be facilitated by offering referrals to trained counselors and other resources outside of the practice, particularly as few practices have sufficient in-house PA skills and resources. Moreover, Internet-based PA counseling is convenient and easily individually-tailored, and it can be combined with other technologies such as wireless PA trackers and text messaging with PA reminders and tips, which can all interface with electronic medical record systems. These approaches can be combined with self-monitoring, which can enhance motivation and increase self-awareness. Recent projects (e.g., My Own Health Record, Move More) have demonstrated the successful implementation of multi-level PA interventions within primary care. Given the power of a physician's prescription for PA and the importance of multiple levels of supportive resources, a multi-level approach to PA counseling within primary care may have the potential to truly impact patient PA levels. This presentation will discuss ways to bridge the gap between primary care settings and behavioral scientists conducting PA interventions in research settings, which is crucial to expanding the reach and enhancing the effectiveness of PA promotion in underserved populations.

Friday
April 1, 2016
3:15 AM-4:45 AM

CITATION AND MERITORIOUS AWARD WINNER
Paper Session 38 **3:15 PM-3:33 PM**

BOLSTERING CANCER PREVENTION EFFORTS THROUGH MESSAGES ABOUT CHEMICALS IN CIGARETTE SMOKE

Sabeeh Baig, MS¹, M. Justin Byron, PhD², Marcella H. Boynton, PhD³, Noel T. Brewer, PhD⁴, Kurt Ribisl, PhD⁵

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Introduction. In order to bolster national cancer prevention efforts, the US FDA is charged with accurately and effectively communicating the risks of cigarette smoke constituents (chemicals) to the public. We compared two ways to communicate about constituents: health effects (e.g., "Acrolein causes heart disease.") and where else these chemicals can be "found-in" (e.g., "Acrolein is found in car exhaust"). **Methods.** A national phone sample of 5,014 adults (ages ≥18) and 1,125 adolescents (13–17) and an online convenience sample of 4,137 adults (≥18) participated in a 2×2 between-subjects experiment. Participants were randomly assigned to receive one of four types of constituent messages, those with a health effect, a found-in, both, or neither. We analyzed the main and interaction effects of both frames on self-reported discouragement from wanting to smoke with ANOVA. **Results.** In all three surveys, messages elicited greater discouragement when they had a health effect than when they did not (all $p < .05$). Messages also elicited greater discouragement when they had a found-in than when they did not (all $p < .05$), but health effect frames had a larger effect size. The frames also interacted (all $p < .05$), but post-hoc tests did not reveal any statistically significant differences in discouragement caused by messages with either frame alone or both together in the phone samples. However, messages with both frames elicited greater discouragement than those with either frame alone in the online survey. **Conclusions.** Messages with either frame discouraged participants from wanting to smoke, but those with health effects were more effective. In some cases, messages with both frames together may be more effective than either frame by itself in discouraging participants. Our findings will be useful for the FDA's tobacco control program and other health education campaigns that use constituent messaging.

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Paper Session 38

3:33 PM-3:51 PM

TECHNOLOGY & PHONE COUNSELING TO PROMOTE WEIGHT LOSS IN WOMEN AT ELEVATED BREAST CANCER RISK: A PILOT RANDOMIZED CONTROLLED TRIAL

Sheri J. Hartman, PhD¹, Sandahl Nelson, MA¹, Lisa Cadmus-Bertram, PhD², Barbara Parker, MD¹, Tracy Layton, MS¹, John P. Pierce, PhD¹

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Background: For women with an increased risk of breast cancer, changing modifiable risk factors may be important. Two such risk factors are excess weight and physical inactivity. The aim of the study was to test an intervention that combined commercially available technology with individualized phone calls for weight loss in comparison to a usual care arm. **Methods:** Women with BMI ≥ 27.5 kg/m² at elevated breast cancer risk were randomized to a weight loss Intervention Arm (N=36) or a Usual Care Arm (N=18). The Intervention Arm was asked to self-monitor their diet with the Myfitnesspal website and phone app, monitor their physical activity with a Fitbit One, and complete 12 telephone coaching calls over 6 months. Weight was measured at baseline and 6 months. Physical activity was assessed using the ActiGraph GT3X+ at baseline and 6 months. **Results:** Participants (N=54) were 59.5±5.6 years of age with a body mass index of 31.9±3.5 kg/m². The mean Gail Model score was 2.5±1.4 with 50% reporting a history of breast biopsy and 38% with a first-degree relative with breast cancer. At 6-months the Intervention Arm had lost significantly more weight (4.4kg vs. 0.8kg, $p=.004$) and lost a greater percentage of starting weight (5.3% vs. 1.0%, $p=.005$) than the Usual Care Arm. Across arms, greater weight loss was observed among those with greater increases in moderate-vigorous physical activity ($p=.01$). **Conclusions:** Combining technology-based self-monitoring tools with telephone counseling supported weight loss over 6 months in women at increased risk for breast cancer. More research is needed on the integration of commercially available technology into weight loss research, especially in populations at increased risk of developing cancer.

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Paper Session 38

3:51 PM-4:09 PM

THE ROLE OF CONTEXT IN PERCEIVED CANCER RISK SELF-EFFICACY FOR PREVENTING CANCER IN US ADULTS

April Oh, PhD, MPH, Rebecca Ferrer

National Cancer Institute, Rockville, MD

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Perceptions of cancer risk (PCR) are associated with cancer preventive health behaviors such as cancer screening, although associations are complex and can depend on self-efficacy for prevention. Here, PCR is defined as a judgment of how susceptible one is to cancer, compared to others, and self-efficacy is defined as perceptions one can personally take actions to mitigate cancer risk. Socio-ecologic models posit the role of environmental specificity on health behaviors and beliefs, yet few studies have explored the relationship between context and PCR and self-efficacy for prevention. This study explores the role of, the home and neighborhood contexts, on individual's PCR and self-efficacy in a national sample adults. The survey of Midlife Development in the U.S. (MIDUS) (Wave 2) provided data for this study (n=3911). Context was defined and measured by perceived home inequality and neighborhood quality. PCR and self-efficacy were regressed (in separate models) on home inequality, neighborhood quality, family history for cancer, and sociodemographic characteristics (age, gender, race, ethnicity, education). Models found greater perceived inequality in home ($B = .11, p = .004$) was positively associated with PCR. Self-efficacy was positively associated with both perceived quality of neighborhood ($B = .18, p < .001$) and perceived inequality in home ($B = -.16, p = .001$). While prior studies have demonstrated the role of the home and neighborhood context on access and availability of resources in influencing cancer preventive behaviors, findings from this study suggest the broader role of perceptions of context on PCR and self-efficacy, even after controlling for robust predictors of these perceptions (including family history of cancer and sociodemographic variables). Findings are consistent with the hypothesis that context can shape beliefs about cancer, which is important given that associations suggest that individuals in poorer quality neighborhoods may be accurate in believing that their cancer risk is higher, but also lack self-efficacy for taking preventive action that can mitigate risk.

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Paper Session 38

4:09 PM-4:27 PM

A FAITH-BASED/ ACADEMIC PARTNERSHIP FOR CANCER PREVENTION: PROJECT CHURCH, AN AFRICAN AMERICAN COHORT STUDY

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Design and conduct of research to understand the causes of cancer disparities among African Americans (AAs) is critical, yet remains a complex issue. Conducting such research can be particularly challenging as this requires sustained engagement with the African American (AA) community for participant recruitment and retention. The church setting serves as a central aspect of community among many AAs and has been recognized as an integral component of delivering health promotion and disease prevention services to this community. We will illustrate the process of developing research partnerships with faith-based communities through description of a successful church-based cohort study, Creating a Higher Understanding of Cancer Research and Community Health (Project CHURCH). Project CHURCH was initiated in 2008 with AA churches in Houston, TX, established to identify underlying reasons for health disparities in cancer among AAs (biological, individual, social and environmental) and to engage AAs as partners in the research process. The cohort, currently with 2388 participants, was created through a process that included church identification, relationship development and trust building based on community-based participatory research principles, advisory board formation, and collaborative recruitment and retention planning. Participants are 70% female, 25% with incomes < \$40,000 per year, 24% with a smoking history, 54% obese and 18% reporting depressive symptoms. Data collection for this cohort study has included yearly surveys along with anthropometric measures, DNA saliva samples, and accelerometer data. Project CHURCH boasts an 87% 4-year retention rate achieved through various relationship building and dissemination activities including feedback reports to the church, individual feedback to participants on select health indicators (i.e., weight status), and opportunities to participate in various health promotion and research opportunities. Finally, this partnership has been sustained for 7 years. We will discuss the support/infrastructure necessary for long term viability of this type of research partnership.

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Paper Session 38

4:27 PM-4:45 PM

A PARADOX: ENGAGING IN AT-RISK BEHAVIOR MAY NOT CORRELATE WITH PERCEIVED SUSCEPTIBILITY TO CANCER OR HEART DISEASE

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Background Studies have shown that smoking, nutrition, and sedentary lifestyle are top factors associated with heart disease and cancer. The objective of this study was to examine predictors of respondents' perceived susceptibility to cancer and heart disease. **Methods** Data from the Health Information National Trends Survey 4 Cycle 3 (November 2013) were analyzed for 2,508 survey participants aged 18 years and older. Binary logistic regression was used to examine the association between behavioral and socio-demographic risk factors for heart disease and cancer and perceived susceptibility to these diseases. **Results** Smoking status ($p = 0.4385$), nutrition ($p = 0.6387$), and physical activity ($p = 0.5889$) were not significant predictors of perceived susceptibility to cancer. Similarly, smoking status ($p = 0.3702$), nutrition ($p = 0.1583$), and physical activity ($p = 0.0979$) were not significant predictors of perceived susceptibility to heart disease. Former and current smokers had low perceived susceptibility to heart disease but high perceived susceptibility to cancer compared to non-smokers. In addition, respondents who consumed less than 5 servings of fruits and vegetables weekly had high perceived susceptibility to heart disease but low perceived susceptibility to cancer, compared to respondents who consumed 5 or more servings of fruits and vegetables weekly. Furthermore, respondents who exercised 1-4 times per week had high perceived susceptibility to heart disease and cancer, compared to respondents who exercised 5-7 times per week. However, respondents who did not engage in any physical activity had low perceived susceptibility to heart disease and cancer, compared to respondents who exercised 5-7 times per week. **Conclusions** Despite evidence that indicates the importance of not smoking, proper nutrition, and exercise to protect against heart disease and cancer, our findings show that respondents who were at higher risk were not significantly more likely to have high susceptibility to these diseases. These paradoxical results pose important implications for disease-specific interventions targeting health behaviors. Healthcare providers and program planners should consider these findings for optimal intervention planning and implementation.

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Paper Session 39

3:15 PM-3:33 PM

GENE-ENVIRONMENT IMPACT OF NEIGHBORHOOD WALKABILITY ON OBESITY IN AFRICAN-AMERICAN PARTICIPANTS OF THE PATH TRIAL

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Background/Objectives. Genetic and neighborhood risk likely interact to influence obesity, though these effects have not been studied as a function of neighborhood walkability in at-risk African-American communities. This study examined the moderating effects of genetic obesity risk on relations between neighborhood walkability (walking and cycling supports, access to services within walking distance) and body mass index (BMI) in African-American adults participating in the Positive Action for Today's Health (PATH) environmental intervention to increase walking. **Methods.** Participants ($N=213$) of the PATH trial provided genetic buccal swab samples, and completed BMI measurements and the Neighborhood Environment Walkability Survey at baseline, 12-months, 18-months, and 24-months. Twelve single nucleotide polymorphisms (SNPs) were genotyped based on an established obesity-risk index. Multi-level linear regressions tested the gene-environment impact of each of the five neighborhood walkability constructs on BMI, within a longitudinal design, controlling for intervention and community. **Results.** The sample was 65% female with a high BMI at baseline ($M=31.80$, $SD=8.60$) and mean age of 52 ($SD=16$). Direct effects of genetic risk ($B=-1.43$, $p=0.025$) and access to services within walking distance ($B=-1.50$, $p=0.017$) predicted BMI and were consistent across all models. Gene-by-environment-by-time interactions for neighborhood walking and cycling ($B=-1.43$, $p=0.025$) and access to services within walking distance ($B=-1.50$, $p=0.017$) predicted BMI; individuals with low perceived neighborhood walkability and high genetic risk showed a greater increase in BMI from baseline to 24-months than those with low gene-environment risk. **Conclusions.** Greater genetic risk of obesity and poor neighborhood walkability were related to increasing BMI over time, whereas low genetic risk and high perceived neighborhood walkability were not. Research examining the potential mechanisms of these gene-environment effects could inform community-based intervention and policy efforts to prevent obesity in at-risk African-American populations.

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Paper Session 39

3:33 PM-3:51 PM

NEIGHBORHOOD ENVIRONMENT AND OBJECTIVELY MEASURED PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOR IN PROSTATE CANCER SURVIVORS

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Background: Neighborhood environment may influence physical activity. Studies of prostate cancer survivors, to date, have relied on self-reported measures of physical activity. The purpose of this study was to examine objectively measured physical activity and sedentary behavior among prostate cancer survivors and to evaluate associations with perceived neighborhood context. **Methods:** Cross-sectional analysis of 193 men with clinically localized prostate cancer from the Prostatectomy, Incontinence and Erectile function (PIE) study. Neighborhood environment perceptions were assessed using self-administered questionnaires. Measures of physical activity and sedentary time were derived from accelerometers. Multivariable log-binomial analyses were performed to determine the relationship between neighborhood factors and recommended levels of moderate-to-vigorous physical activity (MVPA). Multivariable analysis of covariance models were used to examine the relationship between neighborhood perceptions and sedentary time. **Results:** Approximately 16% of participants met MVPA guidelines. Participants averaged 9 hours/day in sedentary time (65% of accelerometer registered time). We found no association between any of the fifteen neighborhood factors and MVPA. Compared with participants who felt safe in their neighborhood at night, participants who felt unsafe in their neighborhood at night engaged in more sedentary behavior (9.8 versus 8.8 hours; $p = 0.02$), after adjusting for confounders and clinical characteristics. **Conclusions:** This is the largest study to utilize accelerometer-derived data to assess activity among prostate cancer survivors. Findings suggest that perceived neighborhood crime may influence sedentary time. Although associations were evaluated among prostate cancer survivors, results may be applicable to women survivors and other adult populations. Residents who perceive their neighborhood as unsafe may benefit from home- and work-based promotion efforts to reduce sedentary time.

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Paper Session 39

3:51 PM-4:09 PM

ARE LEISURE AND WORK PHYSICAL ACTIVITY ASSOCIATED WITH ACTIVE TRANSPORT? EVIDENCE FROM THE GROW STUDY

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Active transport (AT) helps to meet physical activity (PA) guidelines, bestowing health benefits to individuals and reducing carbon emissions. Little research has distinguished between non-work vs work AT or has accounted for how PA done in other domains, such as leisure time (LTPA) or at work (WPA), may be related to AT. Conventional wisdom has suggested a compensatory effect suggesting more LTPA or WPA might be related to less AT. This study explored this question by investigating correlates of non-work AT by employment status, accounting for LTPA; and correlates of work AT, accounting for LTPA and WPA, in a population-based sample of California mothers ($N=2,906$) participating in the Geographic Research on Wellbeing (GROW) study (2012-2013). AT was measured by items from the National Household Travel Survey. LTPA was measured using the Stanford Leisure-Time Activity Categorical Item. WPA was measured with items adapted from the Stanford Brief Activity Survey. Over half of employed mothers (53%) worked in sedentary jobs, and less than 10% used non-work AT or work AT. In contrast, over 20% of unemployed mothers used non-work AT, although their LTPA levels were slightly lower (2.5, range 1-6, higher values indicating more LTPA) than for employed women (2.7). Multiple regression models demonstrated that employed and unemployed mothers with low education and income, and unemployed African American or Latina immigrant mothers were more likely to use non-work AT. Unemployed mothers who were younger and had four or more children were less likely to use non-work AT. In terms of work AT among employed women, multiple regression models demonstrated that women with low education and income, African American women, and those who worked part time were more likely to use work AT, while younger women were less likely to use work AT (all $ps < .05$). Although both LTPA and WPA were associated with work AT in unadjusted models, they fell out of the adjusted models. Different AT patterns were seen for employed vs unemployed women. Non-work and work AT were strongly related suggesting women who use AT do so for most trips. After accounting for sociodemographic factors, LTPA and WPA appear to be unrelated to AT among both employed and unemployed mothers in this representative sample. Policy and practice strategies should support a variety of messages to encourage these unique and seemingly unrelated domains of physical activity.

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Paper Session 39

4:09 PM-4:27 PM

INVOLVING COMMUNITY GROUPS IN PLAYGROUND RENOVATIONS: EVALUATING A NATURAL EXPERIMENT

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Background: A needs assessment of all Chicago parks identified 300 playgrounds in need of repair. Using Chicago Park District (CPD) capital improvement funds, the Chicago Plays! Initiative was created to renovate these 300 playgrounds to enhance the safety and accessibility for all Chicago residents. In 2013, the CPD and Friends of the Parks (FOTP), a local nonprofit organization, developed a competitive application process where community groups (e.g., park advisory councils, block, and church groups): 1) nominated playgrounds to be renovated in Year 1 of the program and 2) proposed plans for ongoing playground maintenance. The process was meant to empower residents living in intervention areas to improve their neighborhoods and health by increasing park utilization and physical activity (PA) for children and their families. **Methods:** In a sample of racially, ethnically, and socioeconomically diverse neighborhoods, using a quasi-experimental prospective longitudinal study design, we examined whether this involvement of community groups influenced park utilization and PA post-playground renovations ($N=78$ matched parks, 39 intervention, 39 control). Parks were matched on size, proximity, neighborhood SES and race/ethnicity. In summer/fall 2013 and 2014 baseline and 12-month follow up data were collected on park utilization and PA; and presence and condition of park features, incivilities, programming, and safety. Analyses were conducted using a Poisson mixed-effects regression model. Models controlled for park size, daily temperature, distance between matched parks, neighborhood median household income, and predominant race. **Results:** Evaluation of this natural experiment showed significant positive intervention effects for park utilization ($=0.21$, $p>0.01$) and moderate-to-vigorous physical activity ($=0.198$, $p>0.05$), and a weak significant intervention effect for observed sedentary behavior at the 0.10 significance level ($=0.17$, $p=0.054$) comparing baseline to 12-month follow up observations. In summer/fall 2015 24-month follow up data were collected to determine if these initial promising intervention effects were sustainable over time. Results comparing all three waves of data will be presented. Results of this study can provide communities with evidence to inform future policy decisions on how to increase park utilization in diverse neighborhoods.

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Paper Session 39

4:27 PM-4:45 PM

URBAN TEACHING COHORT: DEVELOPMENT OF A TAILORED BUILT-ENVIRONMENT ASSESSMENT

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The Urban Teaching Cohort (UTC) is a community-based approach to teacher education, including faculty and pre-service teacher collaborations with high-need schools and community organizations. Integrated within UTC is an emphasis on holistic wellness, specifically in relation to factors within the physical environment. The current study examined an urban city in northern Ohio, aiming to develop a built-environment measure with adaptation to a unique urban community. Within the same urban setting, a secondary objective was to observe all streets and describe the physical environment. Researchers merged three previously reported built-environment measurement tools and tailored the assessment to the targeted urban setting. Extensive observational data was obtained systematically for streets within a 3-mile radius around four elementary school campuses. Streets within the radius were divided into segments based on distance and location; each segment was approximately 0.25 miles long. Total segments observed ($N=256$) covered more than 64 total miles. On average, each observed segment had 37 residential buildings; however, the variability of frequency was high ($SD=35.76$). On average, segments provided less than one physical activity opportunity ($mean=0.24$, $SD=1.19$) and minimal opportunities to purchase fruit or vegetables ($mean=.04$, $SD=.19$). The average cost of fruit was just under one dollar ($mean=\$0.96$, $SD=\$0.33$). Relative to walkability/bikeability, 31% of segments were one-way streets, 85% had connectivity to other streets, 2% had speed control devices (e.g., speed bumps), 17% had pedestrian crosswalks, 86% had street lighting, 65% allowed on-street parking, 75% had sidewalks, 10% had bike lanes, and 9% provided one or more bike racks. Study outcomes provide a tailored and valid built-environment measure and describe the targeted urban setting in extensive detail. This process has enabled an ongoing and progressive relationships between school and community, extending the potential to impact school curriculum and students. With the information collected, future intentions include development of an interactive, community-based Graphic Information System (GIS) for this area that can be utilized by teachers, students, and community members.

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MERITORIOUS AWARD WINNER

Paper Session 40

3:15 PM-3:33 PM

LONG-TERM EFFECTS ON PHYSICAL FUNCTION IN OLDER ADULTS FOLLOWING A DVD-DELIVERED EXERCISE INTERVENTION

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Physical activity is well established as a successful method for improving physical function in older adults. However, most of this research is founded in the short-term (i.e. end of intervention effects) with little emphasis on long-term maintenance of these effects. Improvements in physical function after participating in FlexToBa, a 6-month, home-based DVD delivered exercise program, were reported to be maintained after a 6-month no contact period (i.e. 1 year after completion of the program). The present study determined whether improvements in physical function were present 18 months after completion of the program. Participants ($N=129$, M age = 70.42 years \pm 4.68) were community dwelling older adults randomized to either the exercise intervention focused on flexibility, toning, and balance or an attentional control condition. They completed functional performance assessments (i.e., the Short Physical Performance Battery [SPPB]; Seniors Fitness Test) as well as a subjective functional limitations assessment (Late-Life Function and Disability Instrument [LL-FDI]) at baseline, immediately following the intervention (i.e., month 6), following a 6-month no contact period (i.e., month 12), and 18 months post-intervention (i.e., month 24). Analyses of variance were conducted to examine differences in physical function between the two conditions 18 months post-intervention. While there were no significant differences between the conditions for upper body strength, flexibility, or functional limitations (all p 's $>.13$), results indicate the intervention participants had significantly higher SPPB scores relative to the controls, $F(1,128) = 3.93$, $p = 0.05$, 0.03 . In line with previous evidence, these findings suggest a DVD delivered exercise program may be effective in improving some elements of physical function across an extended period of no contact by study personnel. These findings have significant public health implications given the program's potential for widespread dissemination and its capacity to provide long-lasting improvements in function for older adults.

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Paper Session 40

3:33 PM-3:51 PM

PREDICTORS OF ADHERENCE TO TWO DOSES OF AEROBIC EXERCISE IN SEDENTARY, OVERWEIGHT INDIVIDUALS

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Exercise is cited as an important tool for weight reduction, yet many studies have demonstrated that exercise training, without dietary intervention, results in less weight loss than expected (30%). The Examinations of Mechanisms of Exercise-Induced Weight Compensation (E-MECHANIC) study was designed to compare the effect of two doses of aerobic exercise [recommended dose (RDE, 8 kcal kg⁻¹ wk⁻¹, KKW) or high dose (HDE, 20 KKW)] versus a no-exercise control group on energy intake and weight compensation in 198 sedentary, overweight/obese men and women. All exercise was completed on a treadmill at 65–85% VO_{2peak} and adherence was recorded as the percent of prescribed kcal completed. In this secondary analyses, we assessed differences between study completers/non-completers and adherent/non-adherent participants on demographics and measures of eating attitudes and behaviors. Participants were classified as completers if they completed primary outcome measures at week 24 and adherent if they completed greater than 80% of the prescribed kcal during the study (exercise groups only).

The sample was primarily women (74.2%) and Caucasian (63.1%) with a mean (SD) age of 47.6 (11.9) and BMI of 31.5 (4.7). 168 (84.8%) and 109 (82.0%) participants were classified as completers and adherent, respectively. Average adherence to exercise was 93.5% (23.5%) and 85.7% (25.8%) for RDE and HDE, respectively. Analysis of variance indicated that, compared to non-completers, more completers were Caucasian (p

These findings suggest that intervention adherence $> 80\%$, age, and race are predictors of successful study completion. Interestingly, in a study examining weight compensation, completers had higher levels of dietary restraint. In addition, completers, older participants, and Caucasians were more adherent to the intervention.

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Paper Session 40

3:51 PM-4:09 PM

EFFECTS OF AN ABBREVIATED WEIGHT LOSS PROGRAM ON PHYSICAL ACTIVITY AND SEDENTARY TIME

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Standard weight loss programs typically include 16–24 in-person sessions over 6 months. It is unclear how an abbreviated technology-supported weight loss program influences moderate-to-vigorous intensity physical activity (MVPA) and sedentary time. **Purpose:** To determine if abbreviated weight loss interventions increased daily MVPA and decreased sedentary time more than a self-guided control group. **Methods:** A total of 96 participants were randomized to 1 of 3 weight loss conditions: Standard (STND), Technology-Supported (TECH), or Self-Guided (SELF). STND received 8 in-person group sessions, regular coaching callings, and paper diaries to self-monitor dietary intake, physical activity, and weight over 6 months. TECH received an identical intervention except they were given a smartphone, app, and Bluetooth-enabled accelerometer to monitor diet, activity, and weight in real-time as well as communicate with group members. STND and TECH also received an MVPA goal that progressed to 175 min/week. SELF received 1 in-person group session the Group Lifestyle Balance DVD's that contained 12 group sessions similar to the Diabetes Prevention Program. All participants wore an Actigraph 7164 accelerometer at baseline, 3-, and 6-months. ANOVA's were used to examine differences across group and time. **Results:** Participants were 40.1 \pm 10.7 years old with a BMI of 34.8 \pm 2.8, were 87.5% female, and 40.6% Black. At 3 months, MVPA did not vary significantly between groups ($p=0.56$), however the TECH group engaged in less sedentary time than the other two groups (57% vs 61%, $p = 0.046$). At 6 months, MVPA and sedentary time did not vary between the three groups ($p = 0.74$, $p = 0.91$, respectively). **Conclusion:** The current abbreviated weight loss interventions did not increase MVPA engagement at 3 or 6 months. Although sedentary time was not a targeted behavior, reductions were observed in the TECH group. Future technology-supported interventions should explore these mechanisms to target sedentary behavior and pursue additional strategies to help encourage participation in MVPA.

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Paper Session 40

4:09 PM-4:27 PM

OLDER ADULT SEDENTARY BEHAVIOR CHANGE IN THE CONTEXT OF A PHYSICAL ACTIVITY INTERVENTION

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Introduction: Older adults living in retirement communities have high levels of sedentary time. However, no studies have examined whether sedentary behavior can be altered among the oldest old. We examined the effects of a sedentary behavior module provided within a physical activity intervention in retirement communities. **Methods:** Participants (N = 11 sites; mean age = 84; 72% female) were randomized to receive an attention control (N = 156) or a multilevel physical activity intervention (N = 151; monthly group sessions, phone coaching, built environment changes) over 12 months. Between the 3- and 6-month assessments, participants were given education and feedback on their sedentary time and goals were set for reducing sedentary behavior. Sedentary time was measured with a waist worn accelerometer (Actigraph GT3X) at baseline and 3, 6, 9 and 12 months using a threshold of minutes spent at < 100 counts per minute. Generalized linear mixed models were conducted to examine between group changes in sedentary time over time while adjusting for age, sex, site, marital status, and accelerometer wear time. **Results:** Average baseline sedentary time was 553.5 minutes per day in the intervention group and 561 minutes/day in the control group (p > .05). In the control group, sedentary time increased over 12 months (566.8 minutes/day at 3 months, 572.6 minutes/day at 12 months, both p < .05 vs. baseline). In the intervention group, sedentary time decreased to 539.9 at 3 months, but increased between 3 and 12 months (553.5 at 12 months). The intervention group had less sedentary time than the control group at 3, 9, and 12 months, after adjusting for baseline differences (p's < .05). **Conclusions:** Changes in sedentary time were minimal in the intervention group, however there was an increase in sedentary time among the control group over the year. The physical activity intervention reduced sedentary time more than the module focusing on decreasing sedentary behavior. Greater intervention efforts are likely needed to lead to bigger decreases in sedentary behavior among older adults.

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Paper Session 40

4:27 PM-4:45 PM

EFFECT OF A BEHAVIORAL INTERVENTION ON SELF-REGULATION AND MVPA IN OVERWEIGHT AND OBESE ADULTS WITH TYPE 2 DIABETES

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Increasing the use of self-regulation (SR) strategies may have important implications for increasing physical activity and disease management in adults with type 2 diabetes (T2DM). **PURPOSE:** To evaluate the effect of a brief, Social Cognitive Theory (SCT)-based, behavioral intervention on the use of SR strategies and moderate-to-vigorous physical activity (MVPA) in a sample of overweight and obese adults with T2DM. **METHODS:** This study was a 4-week pretest-posttest control group design. Individuals in both groups met individually with researchers four times over the course of four weeks. 23 overweight and obese adults with T2DM were recruited through ResearchMatch.org and campus advertisements, and randomized into two groups. The intervention group (n = 12) received a behavioral intervention targeting SCT variables including SR, self-monitoring (SM), social support (SS), overcoming barriers (OB), time management (TM), self-reward (SeR), and goal setting (GS), by planning and logging weekly physical activity. The control group (n = 11) received information regarding their physical activity habits twice over the course of four weeks. Wearing BodyMedia Armbands for one week at pre- and post-test objectively assessed MVPA in both groups. A previously validated Self Regulation for Exercise Scale measured perceived use of SR strategies at pre and post. **RESULTS:** Inspection of Cohen's d effect sizes revealed a large effect of the intervention on reported use of SR strategies, including total SR (3.15), SM (4.63), GS (3.17), SS (1.29), SeR (1.98), TM (4.41), and OB (2.25). The behavioral intervention had no effect on dimensions of MVPA over the course of four weeks. **CONCLUSIONS:** This study demonstrated the ability of a SCT-based behavioral intervention to improve reported use of SR strategies for MVPA among a sample of overweight and obese adults with T2DM. This is critical as health promotion programs can adopt similar strategies to improve SR for MVPA in this population. Future research can determine the ability of these changes to support changes in MVPA.

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MERITORIOUS AWARD WINNER

Paper Session 41

3:15 PM-3:33 PM

RESEARCH ON PARENTING AND CHILDHOOD OBESITY FROM 2009-2014: ARE VULNERABLE POPULATIONS REPRESENTED?

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Objectives: Parents and families are central to the fight against childhood obesity. Using quantitative content analysis, this study describes the recent literature on parenting and childhood obesity, and examines the representation of vulnerable populations, including racial/ethnic minority and low-income families. **Methods:** Using methods consistent with Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, we identified 4235 articles. Eligibility criteria included non-intervention studies that focused on parenting and childhood obesity, were written in English, published between January 2009 - July 2014, and that included parents/caregivers as research participants. Four trained coders (mean inter-rater reliability $\alpha = .74$) reviewed a final sample of 525 articles for study and parent/caregiver characteristics, as well as parenting constructs measured. **Results:** Eighty eight percent of all articles originated from westernized countries (USA, Europe, Canada, Australasia). Globally, few articles targeted parents from ethnic/racial minority (14%), indigenous (2%), or immigrant (6%) groups and less than one in five (19%) articles targeted parents from low-income backgrounds. In U.S.-based articles, 15% focused predominantly on white participants (i.e., 80% or more of the sample), while far fewer articles focused predominantly on Hispanic (10%), African American (6%), Asian (2%), or Indigenous (1%) parents. **Conclusions:** While racial/ethnic minority and low-income families disproportionately experience the burden of obesity, only a minority of all articles targeted caregivers from these vulnerable groups. Expansion of study designs is recommended to ensure that parents from vulnerable population groups are represented in future research. The explicit recruitment of more diverse caregivers will improve the validity and generalizability of findings, and more effectively inform development of culturally relevant childhood obesity interventions and policies.

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Paper Session 41

3:33 PM – 3:51 PM

EARLY LIFE DISADVANTAGE AND ADULT ADIPOSITY: TESTS OF SENSITIVE PERIODS DURING CHILDHOOD AND BEHAVIORAL MEDIATION IN ADULTHOOD

Stephen Gilman, ScD¹, Marcia P. Jimenez, M.Sc., M.A.², Yen-Tsung Huang, MD, ScD³, Eric Loucks¹Eunice Kennedy Shriver National Institute on Child Health and Human Development, Rockville, MD; ²Brown School of Public Health, Sharon, MA; ³Brown University, Providence, RI

Children exposed to socioeconomic disadvantage are particularly vulnerable to obesity in adulthood. However, it is unclear when during childhood obesity risk is initiated and whether this risk can be altered by interventions in adulthood. We evaluated sensitive period models of the association between early life disadvantage (at birth vs. early childhood) and adult adiposity (body mass index [BMI] and android fat mass assessed by DXA-scan); we also evaluated whether modifiable factors in adulthood (diet, physical activity, smoking, alcohol consumption, and depressive symptoms) contribute to the association between early life disadvantage and adult adiposity. We analyzed data from 931 participants in the New England Family Study who were followed from birth through middle adulthood (mean age, 44.4 years). Socioeconomic disadvantage was a composite measure based on parental education, income, occupation, family structure, and household crowding. Disadvantage assessed prior to participants' birth was associated with higher adult adiposity (1.48 kg/m² BMI [95% CI: 0.03, 2.93]; 625.0 higher grams of android fat [212.6, 1,037.5]). Disadvantage reassessed at age 7 did not predict adult adiposity. Socioeconomic disadvantage at birth was also associated with risks for adult adiposity (fruit and vegetable consumption, cigarette smoking, and depressive symptoms). In mediation analyses, there was evidence for an indirect effect linking early life disadvantage to adult adiposity through elevated depressive symptoms. In conclusion, the excess risk of obesity among lower socioeconomic status groups may originate at the very beginning of life. This risk may be due in part to adult depression, which could be an intervention target to mitigate the adverse effects of early life disadvantage. Future work is needed to clarify the temporality and potential causality between depressive symptoms and obesity in adulthood.

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Paper Session 41

3:51 PM-4:09 PM

WHAT ABOUT DADS? FEWER THAN ONE IN TEN PAPERS ON PARENTING AND CHILDHOOD OBESITY PUBLISHED 2009-2014 PRESENT DATA FOR FATHERS

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Objective: Research on parenting and childhood obesity is a robust and global area of inquiry which informs the design of family interventions for childhood obesity prevention. In this study, we quantified the representation of fathers in this research. **Methods:** We identified and screened research articles using methods outlined in the Preferred Reporting Items for Systems Reviews and Meta-Analyses (PRISMA). Eligible articles included non-intervention studies that focused on parenting and childhood obesity, were written in English, were published between 2009 and 2014, and which included parents/caregivers as research participants. We initially identified 4235 articles and 525 articles were included in the final sample. Four trained coders recorded study and parent characteristics for each article including the number of participating male and female parents/caregivers, using a standardized coding scheme. Approximately 10% of articles were coded by all coders with excellent intercoder reliability (mean $\alpha=.79$) and percent agreement (mean agreement 94%). **Results:** Fathers were underrepresented across all measures of representation. Only 1% of articles focused exclusively on fathers; in comparison, 34% of articles focused on mothers. While slightly more than 50% of articles included at least one father, only 51 out of 525 articles (or 9% of articles overall) reported any results for fathers. When fathers were included in studies their samples sizes were small; more than 60% of articles with fathers included fewer than 50 fathers. Low income and racial/ethnic minority fathers were particularly underrepresented. **Conclusions:** This study unequivocally demonstrates the dearth of data on fathers in research on parenting and childhood obesity. The underrepresentation of fathers in this literature compromises the development of effective family interventions for childhood obesity treatment and prevention. Recommendations for increasing the recruitment and engagement of fathers in research are outlined along with suggested practices for reporting father demographics.

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Paper Session 41

4:09 PM-4:27 PM

ALL IN THE FAMILY: PARENT-CHILD DYNAMICS & WEIGHT LOSS DURING THE MFIT (MOTIVATING FAMILIES WITH INTERACTIVE TECHNOLOGY) STUDY

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BACKGROUND: Parent-child communication and relationship quality have been shown to be important predictors of the adoption and maintenance of health behaviors in childhood; however, their impact on parent health behaviors and weight is unknown. **METHODS:** Parent-child (child age 9-12 years) dyads enrolled in a 12-week mobile intervention to increase physical activity and healthy eating, which included weekly email newsletters and the use of pedometers. Families were randomly assigned to track their steps and food using a paper record or a study-designed website. At baseline and 12 weeks height and weight were measured by research staff, and participants completed validated measures of parent-child relationship and communication. Ordinary least squares regression models were utilized to determine the association between baseline parent-child relationship and communication and changes in BMI and BMI percentile. As relationship quality and communication were high, and did not differ by intervention group, scores were dichotomized (high versus low) and all dyads were analyzed as a single group. **RESULTS:** Thirty-three families were randomized (parents: 43±6 years, 88% female, 70% white, BMI 31.1±8.3 kg/m²; children: 11±1 years, 64% female, 67% white, BMI 77.6±27.8 percentile) and 31 (93.9%) had complete follow-up data. For parents, significant predictors of change in BMI were: high levels of engagement with child ($b=-2.43$, $p<0.01$) and high perceived closeness to child ($b=-2.30$, $p=0.02$); family cohesion and general communication were not significant predictors. For children, significant predictors of change in their BMI percentile were: high levels of family cohesion ($b=-3.83$, $p=0.04$) and high levels of parent communication about eating and activity ($b=-3.83$, $p=0.04$); general communication, family engagement, and perceived closeness to parent were not significant. **CONCLUSIONS:** Parent-child relationship quality is a predictor of weight changes for parents and children. Future research should continue to explore the reciprocal nature of this relationship as well as ways to capitalize on the family bond in interventions to maximize weight loss.

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Paper Session 41

4:27 PM-4:45 PM

DIVERSITY IN FATHERS' FOOD PARENTING PRACTICES: A QUALITATIVE STUDY

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Background Food parenting practices (FPPs) play an important role in shaping children's dietary behaviors. However, existing knowledge in this field is largely based on research with mothers. This study (1) identified fathers' FPPs (2) described how FPPs varied by fathers' education levels and residential status. **Methods** Participants included 40 fathers from diverse backgrounds (mean age 39 ± 9.0 years; 40% non-residential; 40% ≥ college education). Semi-structured interviews, conducted by trained researchers using an interview guide, were audio-recorded and transcribed verbatim. NVivo 10 was used for thematic coding. Coding was conducted using both inductive and deductive approaches. FPPs were identified and their relative distribution was examined across fathers' education and residential status. **Results** Twenty FPPs were identified in this sample including 13 responsive practices and 7 unresponsive practices. *Having food rules* was the most common responsive FPP (81%), followed by *feeding on schedule* (60%) and *making healthy food accessible* (60%). Common unresponsive FPPs were *letting child dictate food preferences* (70%), *incentivizing food consumption* (60%) and *pressuring the child to eat* (35%). Compared to fathers with a college education, more fathers without a college education reported *letting child dictate food preferences* (90% vs. 37%) and fewer reported *feeding on schedule* (50% vs. 75%), *modelling healthy eating practices* (29% vs. 50%), and *using distraction to feed children* (4% vs. 37%). Compared to residential fathers, more non-residential fathers monitored (60% vs. 40%) or encouraged (90% vs. 36%) child food intake and let child dictate food preferences (20% vs. 0%). **Conclusions** Fathers used an extensive variety of FPPs which are similar to those previously identified in research with mothers. This suggests that existing food parenting measures, developed largely with mothers, may also be applicable to fathers. There was also some indication that less educated and non-residential fathers may require greater guidance in the use of responsive FPPs that promote child nutrition.

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CITATION AWARD WINNER
Paper Session 42 3:15 PM-3:33 PM

WEB-DELIVERED INCENTIVES AND WORKING MEMORY TRAINING FOR TEENS WITH POOR TYPE 1 DIABETES CONTROL: EMOTION CONTROL AS A MODERATOR

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Teens with type 1 diabetes (T1D) often struggle with adherence, which is associated with teen capacity for self-regulation, including emotional control (Lansing & Berg, 2014). Working memory undergirds emotional control, as well as planning and decision-making, and might be an important target of adherence interventions, especially for teens with poor emotional control. Research suggests working memory can be modified through working memory training (WMT) and possibly through domain-specific behavior economic incentives (BEI), such as BEI targeting increased blood glucose testing (BGT; Stanger et al., 2013). We examined a novel intervention combining web-delivered BEI and WMT for teens with poorly controlled T1D (BEI+WMT). We hypothesized that teen participation in BEI+WMT compared to Usual Care (UC) would be associated with increased BGT and improved metabolic control (HbA1c) in particular for those teens with poorer emotional control. Teens with poorly controlled type 1 diabetes ($n=44$, M Age=15.12 yrs, 60% male) were randomized to receive BEI+WMT ($n=22$) or UC ($n=22$). Pre- and post-intervention, teens completed the BRIEF-SR, emotional control subscale (Guy et al., 2004). HbA1c's were ascertained from blood draws and BGT via meter download. Repeated measures ANOVAs were conducted controlling for time since diagnosis and use of pump. BEI+WMT significantly increased BGT compared to UC ($F(1, 37)=4.68$, $p=.04$, partial eta squared=.11), while HbA1c changes were not significant ($F(1, 38)=3.61$, $p=.07$, partial eta squared=.09). There was a significant time by treatment by emotional control interaction for both BGT ($F(1, 37)=.86$, $p=.01$, partial eta squared=.19) and HbA1c ($F(1, 38)=5.23$, $p=.03$, partial eta squared=.12). Teens with poorer emotional control who received BEI+WMT had greater increases in BGT and larger decreases in HbA1c compared to teens with better emotional control who received BEI+WMT and to teens in UC. These findings suggest that a web-delivered BEI+WMT intervention may be an efficacious method for improving adherence and metabolic control in teens with T1D, in particular for teens with poor emotional control.

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Paper Session 42

3:33 PM-3:51 PM

BENEFIT FINDING AND IDENTITY PROCESSES IN TYPE 1 DIABETES: PROSPECTIVE ASSOCIATIONS THROUGH ADOLESCENCE

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Identity formation – and especially the exploration of various social roles and commitments – constitutes a core developmental task during adolescence. However, previous research has demonstrated that adolescents with Type 1 diabetes score lower on identity exploration as compared to their healthy counterparts. The present longitudinal study examined whether experiencing benefit finding in dealing with Type 1 diabetes may positively predict identity processes such as exploration over time.

A total of 55 adolescents with Type 1 diabetes aged 10-14 years at T(ime) 1 (47% girls) participated in a five-wave longitudinal study spanning 3 years. Adolescents completed a measure of benefit finding related to their diabetes at T1-4 with six-month intervals, and a measure assessing identity exploration and commitment at T5, one year later. Through the use of latent growth curve modeling, T5 identity scores were regressed on intercept and slope terms of benefit finding through T1-4, simultaneously controlling for age, gender, illness duration, pump status (insulin injections vs. pump), glycemic control-values, and depressive symptoms at T1. Identity exploration (but not commitment) at T5 was uniquely and positively predicted by both the intercept and slope terms of benefit finding. Higher initial levels and increases over time in benefit finding positively predicted identity exploration one year later. Identity commitment at T5 was negatively predicted by depressive symptoms at T1.

Identity exploration is a key developmental challenge for adolescents on the road to adulthood. This task can prove especially challenging for adolescents confronted with a chronic illness. The present results indicated that if these adolescents experience benefit finding when dealing with their diabetes, they are more inclined to thoroughly explore different identity alternatives later on in adolescence. In sum, benefit finding may constitute a process facilitating optimal identity formation in adolescents with a chronic illness.

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Paper Session 42

3:51 PM-4:09 PM

CORRELATES OF EXECUTIVE FUNCTION IN ADOLESCENTS WITH TYPE 1 DIABETES

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Background: Type 1 diabetes (T1D) is a prevalent illness in youth, in which the treatment goal is to maintain glycemic control through adherence to a complex regimen. T1D care draws on executive function (EF) skills, or the ability to plan and direct behavior, and teens with T1D are noted to exhibit mild deficits in these skills. Few studies have investigated the role of EF on diabetes care in this population, producing mixed results and relying heavily on parent reports of adherence. Our study explores the relation between EF and various measures of adherence, as well as demographic variables and diabetes-related outcomes. **Methods:** As part of an intervention study, teens with T1D (n=120, age 13-17, 52.5% female, 87.5% White, mean A1c=9.2%) and their parents completed baseline surveys. Parents reported on demographics, and adolescent's global EF and adherence. Teens reported on adherence, quality of life, and depression. Clinical data (e.g., A1c) were obtained from medical charts. **Results:** Bivariate analysis showed a significant relation between parent-reported adherence and EF ($r=-.32$, $p<.01$), but not self-reported or objective adherence measures (i.e., glucose meter data). Interestingly, sex differences emerged, as parent-reported adherence was significant for males ($r=-.56$, $p<.01$), and self-reported adherence was significant for females ($r=-.27$, $p<.05$). Non-Hispanic White teens had poorer ratings of EF ($p<.05$), and this was also true for the lowest categories of income and paternal education ($p<.01$). Diabetes-related outcomes correlated with EF included quality of life ($r=-.31$, $p<.01$), but not depression or glycemic control. Finally, in multivariate analyses adjusted for demographic factors, EF predicted parent-reported adherence ($B=-.365$) and quality of life ($B=-.336$), both $p<.001$. **Discussion:** In our sample, global EF was related to some indicators of adherence and quality of life, but not glycemic control. Executive function may be especially important in adolescence, when responsibility over diabetes increases. Therefore, future studies should focus on important differences that emerge (e.g., sex) with the impact on EF and diabetes outcomes.

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Paper Session 42

4:09 PM-4:27 PM

DEVELOPMENT OF BENEFIT-FINDING FOR ADOLESCENTS' WITH TYPE 1 DIABETES

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Benefit-finding, or identifying positive aspects in adversity, could be an important process for adolescents' with a chronic illness like type 1 diabetes. However, it is not clear how adolescents' benefit-finding develops over time. This study examined if adolescents experience different changes in benefit-finding as they age, and if certain developmental trajectories are associated with more positive diabetes-related outcomes.

Participants were 252 adolescents with type 1 diabetes (ages 10-14 at Time 1, 46% boys) who took part in a five-wave longitudinal study spanning 3 years. Adolescents completed a measure of benefit finding related to their diabetes at times 1-4, each 6 months apart. One year later, both adolescents and mothers reported on the adolescents' treatment adherence, and adolescents' HbA1c levels were obtained.

Latent class growth analyses indicated a 3-class solution. The first class (27%) scored very low on benefit-finding initially and decreased over time. The second class (57%) had moderate levels of benefit-finding initially and decreased slightly over time. The third class (16%) scored very high on benefit-finding initially and remained stable over time. The groups did not differ by gender, age, or illness duration. ANOVAs indicated that there were between-class mean differences on both adolescents' and mothers' report of adolescents' treatment adherence one year later, with those who were consistently high in benefit-finding over the first two years having significantly better treatment adherence. However, there were no trajectory group differences in HbA1c one year later.

Overall, findings suggest that adolescents who consistently experience high levels of benefit-finding in diabetes may have better treatment adherence later. It is possible that benefit-finding serves as a protective factor for those dealing with a chronic illness, and may motivate adolescents to more closely follow the regimens suggested by their providers.

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Paper Session 42

4:27 PM-4:45 PM

UTILIZING ACTIGRAPHY TO EXAMINE SLEEP IN YOUNG CHILDREN WITH TYPE 1 DIABETES

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Caring for a young child with Type 1 Diabetes (T1D) is extremely stressful for parents, and one of the most significant but potentially modifiable sources of stress is sleep disturbance. Young children with T1D are at greater risk for nocturnal hypoglycemia and parents often wake children at night to check their blood glucose, disturbing both child and parent sleep. In turn, insufficient and poor quality sleep contribute to poor glycemic control in adolescents and young adults with T1D, yet few studies have sought to examine the characteristics of sleep in young children with T1D who may be at risk for these adverse effects.

We enrolled 10 young children with T1D aged 2-5 years (mean age=4.6(SD=.99), 56% male, mean HbA1c=8.4 (SD=1.17)). Parents completed the Child Sleep Habits Questionnaire (CSHQ, report on child's sleep) and the Pittsburgh Sleep Quality Index (PSQI, report on parent's sleep). Clinical data (i.e., HbA1c and blood glucose meter downloads) were obtained from children's medical records. Children also wore actigraphy (Philips Actiwatch) at bedtime for 10 days as an objective measure of activity and rest to estimate sleep patterns.

Ninety percent of children in this sample met or exceeded the CSHQ cut-off for disturbed sleep. Actigraphy revealed an average sleep duration of 8.1 hours per night (SD=.76), with an average onset latency (time to fall asleep) of 26.7 minutes (SD=21.69). Meter data indicated that parents checked children's blood glucose an average of 1.7 (SD=1.08) times per night and 50% of parents reported nighttime glucose checks disturbing their child's sleep. Parents reported getting an average of 6.15 (SD=.88) hours of sleep per night.

Our results indicate that disturbed sleep is common in young children with T1D. In addition, these children and their parents are not meeting recommendations for total amounts of sleep (American Academy of Sleep Medicine). Brief, behavioral interventions have shown promise in decreasing sleep latency in other pediatric populations, with improved overall amount and quality of sleep. Although we had a relatively small sample, this was the first study to objectively measure sleep in young children with T1D, highlighting the potentially high rates of sleep disturbance in this population.

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Paper Session 43

3:15 PM-3:33 PM

LONGITUDINAL LINK BETWEEN EARLY DATING BEHAVIORS AND EARLY SEX INITIATION AMONG LATINO TEENS: MODERATION BY MIGRATION STATUS

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With the highest teen birth rate among all racial/ethnic groups in the US., sexual risk behaviors among Latino youth are a major public health concern. In an attempt to understand why teens, especially those of underrepresented groups such as Latinos, are at an increased risk for engaging in sexual risk behaviors (i.e., early sex initiation), research has attempted to examine behaviors and processes that are precursors to sexual risk. It has also been posited that early steady dating provides a context for many adolescent sexual experiences. However, the link between early dating behaviors and subsequent sex initiation among Latino youth has yet to be examined. Moreover, in light of evidence of the Hispanic Paradox partly explaining Latino health outcomes, variations across generational migration status should also be examined. Using the Healthy Passages™ data ($N = 1,790$), we examined the longitudinal associations between early dating behaviors (i.e., holding hands, kissing, etc.) at 5th grade and subsequent sex initiation at 7th and 10th grade among Latino youth. Additionally, we examined the moderating role of generational migration status among first- (18.4%), second- (57.3%), and third-generation (24.3%) Latinos within these associations. Early dating behaviors significantly predicted later sex initiation. Specifically, having a boy/girlfriend significantly predicted sex initiation at 10th grade among both boys and girls ($OR = 1.87$; $OR = 1.91$, respectively). Having kissed was also a significant predictor among boys at 10th grade ($OR = 1.81$) as well as at 7th grade ($OR = 2.50$). Having ever been left alone with a boy/girlfriend was also a significant predictor at 7th grade ($OR = 2.29$). Moreover, migration status was a significant moderator for girls at 10th grade with first-generation girls less likely than other generations to have initiated sex when having had a boyfriend/girlfriend ($OR = 0.33$). Findings have important implications for addressing early sexual initiation and may provide evidence of the Hispanic Paradox in this area.

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Paper Session 43

3:33 PM-3:51 PM

NEIGHBORHOOD STRESS IS LONGITUDINALLY ASSOCIATED WITH RISKY SEXUAL BEHAVIOR AMONG AFRICAN AMERICAN ADOLESCENTS

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Youth living in disordered and disadvantaged neighborhoods may be at greater risk for sexual risk behavior and outcomes, though few studies have examined this association with prospective data. This study reports on the longitudinal association of neighborhood stress to risky sexual behavior and incident sexually transmitted infections (STIs) among African American adolescents. Data come from a large, four-city health promotion trial. Participants ($N=1613$, M age=15±1, 60% female) completed a confidential computer administered survey at baseline and at five subsequent follow-ups over a three year period. A 10-item version of Ewart's City Stress Inventory was administered at baseline ($\alpha = .85$; e.g., "There was a gang fight near my home in the past year") and sexual risk behavior and three prevalent STIs were assessed at baseline and subsequent follow-ups. Generalized estimating equations (GEE) tested whether neighborhood stress at baseline predicted risky sexual behaviors and STI test results across baseline and follow up points. The analyses controlled for age, gender, socioeconomic status (free lunch status), and study intervention conditions. Results indicate that neighborhood stress at baseline predicted number of vaginal sex partners ($b=.06$, $p < .01$) and relative frequency of condom use ($b=-.02$, $p < .001$) (past 3 months) and testing positive for a STI ($b=.03$, $p < .01$). Neighborhood stress did not predict a count of the frequency of unprotected sexual encounters in the past 3 months ($p > .05$). Overall, findings confirm that neighborhood stress serves as a risk factor for STI risk, an effect that persists over time. Research should seek to clarify the mechanisms linking neighborhood context to high risk sexual behavior and seek to improve intervention outcomes by addressing contextual factors that enhance behavioral risks.

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Paper Session 43

3:51 PM-4:09 PM

THE ROLE OF INDIVIDUAL AND RELATIONSHIP FACTORS ON CONTRACEPTIVE USE AMONG AT-RISK YOUNG ADULTS

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Although decisions related to contraceptive use are often made by young adults in the context of a specific relationship, previous research on contraceptive choice and use has focused mainly on individual-level explanatory factors. Researchers posit, however, that partners and relational factors likely influence the use of contraceptives. The purpose of this study was to investigate which partner-specific individual factors (e.g. perceived vulnerability to pregnancy and HIV/STIs, and condom use self-efficacy) and relationship factors (e.g., commitment, relationship type, frequency of sex, and perceived exclusivity) predict contraceptive use (i.e., condom use only, hormonal use only, both condoms and hormones, and no method) over time. A sample of high risk young adults (aged 18 to 30 years) was recruited from community locations in Los Angeles, California. Participants completed four in-person interviews over 12 months and answered a series of partner-specific individual and relationship questions for each partner, at each time point. We hypothesized that greater perceived vulnerability to pregnancy would be associated with use of hormonal and long-acting methods as compared to condom use and that relationship duration, commitment, and exclusivity would be associated with greater use of hormonal methods or no method at all.

Findings indicate that 42% of participants used condoms only and nearly one-fourth used hormonal methods only (22%) and no method (23%). Type of contraceptive use remained stable over all four time points. Using multilevel modeling, we found that both individual and relationship factors predicted contraceptive use, though factors varied by contraceptive type. As hypothesized, participants reporting higher perceived vulnerability to pregnancy were more likely to use hormonal methods only when compared to condoms only or no method. Those who reported greater coital frequency and longer relationship duration as well as greater attachment and greater power were more likely to report using no method. Additional findings and implications for research and practice will be reported.

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Paper Session 43

4:09 PM-4:27 PM

COMPARING RISKS ASSOCIATED WITH SEXUAL RISK TAKING IN ADOLESCENT/YOUNG ADULT AND MIDDLE-AGED BLACK MEN WHO HAVE SEX WITH MEN

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Purpose: Black men who have sex with men (BMSM) are disproportionately affected by human immunodeficiency virus (HIV) in the United States. BMSM who are younger are most at risk for HIV infection; however, it is unclear what drives the disparate rates of HIV transmission among BMSM of different ages. The purpose of this study was to examine the relationship between common risk factors associated with sexual risk taking and to determine whether adolescent and young adult BMSM (i.e., aged 18-39) differed in the number and type of risk factors associated with sexual risk taking compared with BMSM who were in middle adulthood (i.e., 40-64 years of age). **Methods:** We surveyed 450 BMSM located in the Atlanta, GA metropolitan and surrounding areas. We assessed BMSM's depressive symptoms, substance use during sexual activity, psycho-social risk factors (e.g., HIV risk perceptions, condom use self-efficacy, internalized homophobia, perceived HIV stigmatization), and condomless anal intercourse acts to determine whether these factors varied by developmental stage (i.e., adolescent/young adult BMSM versus middle-aged BMSM). **Results:** Adolescent/young adult (AYA) BMSM and middle-aged (MA) BMSM differed with respect to the factors significantly associated with their sexual risk taking behavior (i.e., condomless anal intercourse [CAI]). For AYA BMSM, lower education and less perceived HIV risk were positively associated with CAI. Further, alcohol and drug use before or during sexual activity were both significantly, positively associated with CAI among AYA BMSM. Less perceived HIV risk associated with CAI, as well as lower internalized homophobia, were positively associated with CAI among MA BMSM. **Conclusions:** These two age groups of BMSM – AYA and MA – are different with respect to risk factors associated with CAI. These findings underscore the need for researchers to develop targeted risk reduction interventions for BMSM that consider the factors associated with sexual risk taking that are unique to AYA and MA BMSM populations.

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MERITORIOUS AWARD WINNER Paper Session 43 4:27 PM–4:45 PM

DATING APP USE AND SEXUAL RISK BEHAVIOR AMONG YOUNG ADULTS

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The use of dating sites and phone applications (apps) is on the rise in the United States. Most previous research on dating app use and associated health outcomes has focused on the gay and bisexual male population. The current study focused on associations between dating app used and sexual risk behavior among heterosexual young adult populations. Young adults ($N=509$) completed online questionnaires assessing demographics, dating app use, STI knowledge, impulsivity, and sexual behavior. A substantial portion of participants reported using dating applications (39.5%, $n = 201$). Two hierarchical logistic regressions were performed to determine the independent relationships between dating application use and unprotected sex, as well as multiple sexual partners in the past 3 months after controlling for demographic factors (gender, age, and racial/ethnic minority status), sexually transmitted infection (STI) knowledge, and impulsivity. Dating application use was associated with participation in unprotected sex over the past 3 months, after controlling for these factors ($OR = 1.530$, 95% $CI = 1.048 - 2.234$, $B = .426$, $SE = .193$, $p < .05$). Dating application use was also associated with having multiple sexual partners in the past 3 months, after controlling for demographic factors, STI knowledge, and impulsivity ($OR = 1.872$, 95% $CI = 1.132 - 3.097$, $B = .627$, $SE = .257$, $p < .05$). Results suggest that use of dating apps is strongly associated with high-risk sexual behavior among heterosexual young adults. This is one of the first studies to investigate the relationship between dating application use and risky sexual behaviors in young heterosexual adults. The present study illuminates future targets for intervention, such as including sexual health information embedded in dating applications.

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Paper Session 44

3:15 PM–3:33 PM

WEIGHT CONTROL LAPSES DURING OBESITY TREATMENT: NORMATIVE OR CAUSE FOR CONCERN?

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Although weight control lapses (i.e., weight gains) are considered normative during behavioral weight loss treatment, research on the relation between lapses and weight loss success is lacking. While occasional lapses may provide opportunities for learning and be corrected such that overall weight loss is not meaningfully impeded, lapses may also indicate underlying difficulty with behavior change and predict worse outcomes. Improved understanding of the relation between lapses and outcomes is needed to inform clinical responses to lapses. Overweight and obese adults ($n=283$, $M_{BMI}=35.2$ kg/m², $M_{age}=53.2$ yrs) participating in a one-year behavioral weight loss program were weighed at 16 weekly (Phase 1), 4 biweekly (Phase 2), and 6 monthly (Phase 3) sessions. Frequency of lapses of 1+ lbs and several other sizes (e.g., 1-2 lbs, 2-3 lbs) were calculated by phase and across treatment. Most participants (87.9%) experienced at least one 1+ lb lapse during treatment ($M=2.94$ lapses, $SD=2.11$). Frequency of lapses of all sizes was strongly and inversely related to weight loss during each phase and across treatment when controlling for number of weigh-ins ($rs: -.20$ to $-.76$, $ps < .001$). Notably, controlling for number of weigh-ins, participants who had just one 1-2 lb lapse versus no lapses during Phase 1 lost significantly less weight during that phase (9.1% vs. 10.9% weight loss, $p=.007$); the same was true for Phases 2 and 3 (1.1% vs. 3.3% and 1.2% vs. 3.9%, respectively; $ps < .001$). Frequency of 1+ lb lapses during Phase 1 also predicted weight loss during Phases 2 and 3 ($p < .001$). These results suggest that weight control lapses strongly relate to weight loss at all phases of obesity treatment, and occurrence of a single small lapse is associated with lesser weight loss beyond the difference attributable to the lapse itself alone. Further, early weight lapse occurrence predicts later success. Consequently, lapses should be viewed as cause for considerable concern, and, with replication, behavioral weight loss programs may be improved by increased attention to lapse prevention.

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Paper Session 44

3:33 PM–3:51 PM

WEIGHT OUTCOME FROM THE MAINTENANCE OF NUTRITION TRAINING AFTER INITIAL WEIGHT LOSS (MAINTAIN) TRIAL

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Behavioral interventions are effective for inducing significant short-term weight loss. Weight regain following initial weight loss is common, however, underscoring the need for effective weight loss maintenance interventions. Obese outpatients at the Durham Veterans Affairs (VA) Medical Center who lost ≥ 4 kg during a 16-week, group-based weight loss initiation program were randomized to a maintenance intervention or usual care (no further contact except outcome assessments). The maintenance intervention involved a transition from in-person to telephone delivery; reduced frequency of contact; and focused on weight loss maintenance skills. The intervention was delivered for 42 weeks, followed by 14 weeks of no contact. The primary outcome is weight at 56 weeks. Follow-up will be complete in October of 2015; week-56 results will be presented at the meeting. This abstract reports on maintenance of weight loss at week 42, which was multiply imputed to account for dropout related to baseline weight, age, and distance to VA. We used a linear mixed model with main effects of time, group X time interaction, and initial weight loss stratum (4–10 kg vs. ≥ 10 kg). Of 504 patients who started the weight loss initiation program, 222 lost ≥ 4 kg and were randomized to maintenance ($n=110$) or usual care ($n=112$). Randomized patients were 84% male, 37% White, 58% Black, and average age was 61.8 ($SD=8.3$) years. Participants randomized to maintenance gained less (0.74 kg) than usual care participants (2.69 kg; between-group difference: -1.94 kg (95% $CI: -3.39, -0.49$), $p=0.009$). An intervention focused on maintenance constructs and delivered in a resource-conserving way can reduce weight regain following significant initial weight loss.

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Paper Session 44

3:51 PM–4:09 PM

IMPROVING WEIGHT LOSS MAINTENANCE WITH AN ALTERNATIVE TREATMENT SCHEDULE: THE IMWEL TRIAL

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Background: Weight loss maintenance (WLM) programs typically provide treatment on a fixed-interval schedule (e.g., monthly contacts), although this approach may be less desirable for behavior maintenance. Alternatively, a variable-interval schedule that includes clustered contacts held in close proximity of time (e.g., weekly) separated by longer intervals (e.g., several weeks) with less contact may be more appropriate for WLM. **Objective:** To compare the 12-month weight changes of a variable-interval WLM program with those of a self-directed control condition. **Methods:** Participants ($N=108$; mean age=51.6 years; mean weight=92.6 kg; 52% African American) who achieved $\geq 5\%$ weight loss during an initial 16-week behavioral obesity treatment were randomized into a 2-arm, 12-month WLM trial. In both conditions, treatment materials reinforced previous strategies and promoted sustained adherence to successful weight management behaviors. A variable-interval condition included 12 group-based visits delivered in three, 4-week clusters. A self-directed condition included no additional treatment visits. **Results:** Prior to randomization, participants lost an average of -7.54 ± 5.98 kg. Participant retention in the 12-month trial was high (88%). Participants randomized to the variable-interval program regained significantly less weight (0.43 ± 1.38 kg) than self-directed participants (2.50 ± 1.19 kg) at month 12, after adjusting for age, race, marital status, and education, $p=0.025$. This level of weight regain indicated that variable-interval participants maintained 94% of their initial weight losses. **Discussion:** These initial findings suggest that a novel, variable-interval schedule is effective for facilitating WLM, as these 12-month outcomes compare favorably to those achieved with conventional, fixed-interval schedule WLM programs. Future trials are needed to directly compare the long-term effects of fixed-interval versus variable-interval WLM schedules.

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Paper Session 44

4:09 PM-4:27 PM

HOW MEN AND WOMEN KEEP IT OFF: EXPLORING GENDER DIFFERENCES IN WEIGHT LOSS MAINTENANCE

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Background: There is growing attention to the underrepresentation of men in studies of weight loss and weight loss maintenance (e.g., 20% in the National Weight Control Registry). Therefore, the purpose of this study was to explore gender differences within a weight loss maintenance trial prior to entering the program and during and after treatment. **Methods:** Data for this analysis come from the Keep It Off randomized trial which tested the effect of an interactive phone-based weight loss maintenance intervention over 24 months for participants who had previously lost a minimum of 10% of their body weight in the prior year. Participants (N=419, 18.4% male, age 47.0±10.8, BMI 28.4±5.0) were asked prior to randomization how they initially achieved their weight loss. At baseline, 12 months, and 24 months, participants reported their current eating patterns (e.g., meals eaten over the prior week), dietary intake (NCI's Diet History Questionnaire), and physical activity (Paffenbarger Physical Activity Questionnaire). **Results:** At study entry, women had lost more weight than men (16.4±5.4 vs. 15.0±4.9%, $p=0.03$). A greater percentage of women (55.9%) than men (24.7%, $p<0.001$) used an organized weight loss program as their method for initial weight loss. Women were more likely to report a weight loss motivated by improving issues related to personal esteem than men (51.2 vs. 35.1%, $p=0.01$) but reported similar health motivators (68.2 vs. 74.0%, $p=0.31$). There were few differences in eating patterns at baseline with similar percentages of men and women reporting eating breakfast (62.1%), lunch (61.8%), and dinner daily (72.5%, $p>0.05$). Men were more likely than women to report ever eating food purchased at a convenience store (22.1% vs. 13.1%, $p=0.05$). Similar results were observed at 12 and 24 months. Calorie intake was higher in men at baseline, 12, and 24 months while daily self-weighing and physical activity was similar between men and women at each time point. **Conclusions:** Although men are underrepresented in studies of weight maintenance, it does not appear that they use different behaviors to achieve weight loss maintenance than women. To better involve men in weight loss maintenance interventions, program developers should consider changing the messaging or program format to appeal more to men rather than changing treatment program content.

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Paper Session 44

4:27 PM-4:45 PM

EMPOWERMENT: A QUALITATIVE INQUIRY OF DAILY STRATEGIES AND COMMITMENTS FOR SUSTAINED WEIGHT LOSS

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It is estimated that 80 - 90% of Americans who lose weight regain the unwanted weight back within a year. The purpose of this qualitative study is to explore the lived experiences among female Texans who reported maintaining a weight loss of at least 30 pounds for over a year. A qualitative phenomenological approach was utilized with convenient and snowball sampling techniques selecting seven Caucasian women, 40-70 years of age for an in-depth interview. The interviews lasted 45-60 minutes, were audio-recorded, and then transcribed verbatim. Qualitative responses were coded using thematic analysis. Three themes emerged from the respondents: weight loss processes, individualized adaptation of popular weight-loss programs; and changing beliefs that positively impacted long-term weight maintenance. Respondents described evolved beliefs with altered behaviors and the adoption of different perspectives on health. The female respondents also reported overcoming obstacles which reinforced their motivation for weight maintenance. Responses from the respondents underscored how their beliefs and behaviors seemed to change as a result of each individual's lived experiences, along with personal adaptations of popular-commercialized weight-loss programs. Further investigation is needed to understand the role of intrinsic beliefs in order to develop weight maintenance strategies.

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Paper Session 45

3:15 PM-3:33 PM

PATIENT-PROVIDER COMMUNICATION STYLE AND DEMOGRAPHIC DIFFERENCES IN HPV VACCINATION

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Background. Adolescents may be more likely to receive human papillomavirus (HPV) vaccine when healthcare providers engage them and their parents in collaborative communication. However, little is known about if this relationship holds true for high-priority patients (e.g., racial/ethnic minorities). To address this gap, we examined demographic patterns in provider communication and implications for HPV vaccination. **Methods.** Participants were 4,124 parents of adolescent girls (ages 13-17) who completed the 2010 National Immunization Survey-Teen, a population-based survey with provider verification of vaccination. We analyzed whether collaborative communication (i.e., mutual information exchange, deliberation, and decision, defined by Charles et al.) mediated the relationship between demographic characteristics and HPV vaccine initiation (controlling for provider recommendation). **Results.** Half of parents (53%) reported collaborative communication. HPV vaccination was higher among Hispanic than non-Hispanic white adolescents (55% vs. 49%, respectively), but collaborative communication was less common (42% vs. 57%) and kept HPV vaccination coverage from being even higher among Hispanics (mediation $z=-2.94$, $p<.01$). A similar pattern emerged for public versus private health insurance, such that low collaborative communication kept HPV vaccination coverage from being even higher among publicly-insured adolescents ($z=-2.28$, $p=.01$). Collaborative communication also had marginal ($p<.10$) mediation effects on relationships of language preference, household income, and urbanicity with vaccination. **Conclusions.** Collaborative communication was associated with higher HPV vaccination across groups, but parents from vulnerable populations less often reported that providers used this style. As a result, HPV vaccination was not as common among some high-priority groups as it might have been. Training providers to optimize communication could raise persistently low HPV vaccination rates in the U.S., but experimental studies are needed to confirm causality of these effects.

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Paper Session 45

3:33 PM-3:51 PM

PHYSICIAN COMMUNICATION ABOUT HPV VACCINE: WHAT WILL MOTIVATE PARENTS?

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Background. Infrequent and hesitant physician communication about human papillomavirus (HPV) vaccine has undermined the vaccine's potential to prevent anogenital cancers. To strengthen the resources available to physicians, we sought to establish whether 15 research-informed motivational statements would persuade parents of adolescents to agree to HPV vaccination. **Methods.** In 2014-2015, we conducted two national, online surveys of pediatricians and family medicine physicians who provide vaccine to adolescents ($n=776$) and parents of adolescents ages 11-17 ($n=1,504$). Parents read several motivational statements, selected from 9 long statements developed and disseminated by the Centers for Disease Control and Prevention and 6 other brief statements. Parents indicated whether each statement would persuade them to get HPV vaccine for their adolescent children. Physicians read the brief statements and indicated whether they would persuade parents to get HPV vaccine for an 11-12 year old child. **Results.** Parents' and physicians' endorsement of the brief statements was low (average = 41% and 39%). Parents' endorsement of the long statements was relatively high (average = 60%). However, the highest proportion of physicians (69%) and parents (65%) endorsed this brief statement: "I strongly believe in the importance of this cancer-preventing vaccine for [child's name]." For 14 of the 15 statements, parents' endorsement was associated with greater intentions to vaccinate ($p<.001$). Parents disinclined to vaccinate were most receptive to long statements with information about HPV infection being common, cancers caused by HPV, and HPV vaccine effectiveness. Endorsement did not vary by parent race, ethnicity, education, child age, or child sex (all $p>.05$). **Conclusions.** Our findings provide physicians with language to communicate effectively with parents about this important cancer-preventing vaccine. Some statements received wide endorsement, even from parents disinclined to vaccinate their children. The absence of disparities in parents' endorsement of statements suggests universal use of statements with parents from diverse racial and educational backgrounds and irrespective of child age and sex.

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Paper Session 45

3:51 PM-4:09 PM

IMPROVING PHYSICIAN PRESCRIBING BEHAVIORS FOR HPV VACCINATION: THE ROLE OF PROFESSIONAL ORGANIZATIONS

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Purpose. Low rates of HPV vaccination will lead to 53,000 preventable cervical cancer cases in the U.S. To address this problem, professional organizations have launched large-scale campaigns to educate physicians about the need to deliver strong HPV vaccine recommendations. Our study sought to assess the impact of these efforts on physicians' prescribing practices. **Methods.** A national sample of pediatricians and family physicians ($n=776$) completed our online survey in 2014. The survey assessed whether physicians had received information about HPV vaccine from the American Academy of Family Physicians (AAFP) or the American Academy of Pediatrics (AAP), as well as the content and influence of that information. Using a validated index, our survey also assessed the quality of physicians' practices for recommending HPV vaccine. **Results.** Relatively few physicians reported receiving information on HPV vaccines from AAFP (23%) or AAP (40%), compared to about half (52%) who got information from drug companies. Among those reached by AAFP or AAP, most received the message that they should give strong recommendations for HPV vaccination to adolescent boys and girls (71% and 78%, respectively). Interestingly, physicians who received this message were significantly more likely to report high-quality HPV vaccine recommendation practices for boys ($OR=4.19$, 95% CI, 2.64-6.64) and girls ($OR=3.15$, 95% CI, 1.91-5.18). Physicians also reported improving their HPV-vaccine communication practices as a result of receiving information from AAFP (69%) or AAP (53%). **Conclusions.** Our findings suggest that AAFP and AAP are effective in communicating the importance of strong HPV vaccine recommendations, but the reach of their efforts is limited. Given that many physicians reported improving their prescribing behavior after receiving information, professional organizations stand to make a substantial contribution to increasing HPV vaccination coverage, but they likely need to increase the intensity of their quality improvement efforts to do so.

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Paper Session 45

4:09 PM-4:27 PM

COUNSELING PARENTS WHO REFUSE OR DELAY HPV VACCINE: DIFFERENCES IN BEHAVIOR, CONCERNS, AND COMMUNICATION PREFERENCES

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Background. Parental hesitancy towards HPV vaccination is a prevalent and understudied problem. For example, 20% of parents reported refusing HPV vaccine in 2010, the last year for which national estimates are available. To update these estimates and investigate opportunities for improving clinical communication, we sought to characterize HPV vaccine refusal and delay in a nationally-representative sample. **Methods.** In 2014 to 2015, we conducted a national, online survey of 1,484 U.S. parents who reported on an 11- to 17-year-old child. We used weighted multinomial logistic regression to assess correlates of HPV vaccine refusal and delay. **Results.** Overall, 28% of parents reported HPV vaccine refusal, and of these, only 27% had initiated HPV vaccination for their child. Another 8% of parents reported HPV vaccine delay, and the prevalence of initiation in this group was similar to parents who reported no refusal/delay (59% and 56%). Compared to no refusal/delay, refusal was associated with lower confidence in adolescent vaccination ($RRR=0.66$, 95% CI, 0.48-0.91), lower perceived HPV vaccine effectiveness ($RRR=0.68$, 95% CI, 0.50-0.91), and higher perceived harms ($RRR=3.49$, 95% CI, 2.65-4.60). By contrast, delay was associated only with needing more information ($RRR=1.76$, 95% CI, 1.08-2.85). Most parents rated physicians and information sheets as helpful for making decisions about HPV vaccination, although parents who reported refusal endorsed these resources less often. Relatively few parents wished to have long discussions with providers (16%) or believed that providers should never routinely recommend HPV vaccine (16%). **Conclusion.** Our findings suggest that HPV vaccine refusal and delay are common among parents of adolescents, with a substantial increase in prevalence observed since 2010. Because the behavior, concerns, and preferences of parents who refuse differ from those who delay, targeted strategies are likely needed to meet the communication needs of the "worried" parents who refuse versus the ambivalent "fence sitters" who delay.

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Paper Session 45

4:27 PM-4:45 PM

IMPROVING PROVIDER SELF-EFFICACY AND BEHAVIOR RELATED TO HPV VACCINATION: CAN WEBINAR-DELIVERED QUALITY IMPROVEMENT WORK?

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Purpose: State health departments use the CDC's Assessment, Feedback, Incentives, and eXchange (AFIX) approach to improve vaccine delivery systems in primary care settings, with over one-quarter of the nation's vaccine providers receiving AFIX consultations each year. To investigate a more efficient mode of delivery, we conducted a process evaluation that compared traditional in-person AFIX consultations to those delivered via interactive webinar. **Methods:** In March 2015, we randomly assigned 270 high-volume primary care clinics in three states (Illinois, Michigan, and Washington) to receive no consultation or an in-person or webinar AFIX consultation focused on adolescent immunization, delivered by immunization specialists from participating state health departments. These clinics served over 370,000 patients, ages 11-17. For clinics in the intervention conditions, we used web-based surveys of participating vaccine providers to evaluate providers' participation in and satisfaction with their assigned delivery mode. **Results:** The majority of AFIX consultation participants were nurses (30%), office managers (19%), or physicians (12%). After consultations, both in-person and webinar participants reported increased awareness of the need to raise their immunization coverage and showed improvement in self-efficacy to help their clinics improve (both $p < .05$). Participants rated consultations equally highly across consultation mode on satisfaction measures such as ease of understanding ($mean=4.7$ of 5.0, $SD=0.9$), convenience ($mean=4.4$, $SD=1.0$), and helpfulness ($mean=4.3$, $SD=1.0$). Participants in both arms gave high scores to the importance of program components such as reviewing clinic's immunization rates ($mean=4.4$ of 5.0, $SD=1.0$). Two-thirds (67%) claimed the CME credit we offered for participating in the AFIX consultation. **Conclusions:** Our findings suggest that webinar delivery could increase the reach of CDC-funded vaccination quality improvement visits without adversely affecting participant experience. Webinar delivery shows promise for supporting state health departments in maximizing AFIX programs' efficiency and disseminating adolescent immunization quality improvement programs nationally.

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Paper Session 46

3:15 PM-3:33 PM

THE RELATIONSHIP BETWEEN THE SHELTER ENVIRONMENT AND SUBSTANCE USE AMONG YOUTH RESIDING IN FAMILY SHELTERS: WHAT IS WORKING?

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The United States is experiencing rates of homelessness that have not been seen since the Great Depression. Homeless populations are not only increasing in number but are remaining in shelters longer. Despite this, there has been a paucity of research related to the potential impact of the shelter environment on the mental or physical wellbeing of homeless families, and homeless youth residing with caregivers in particular. Findings from the HIV Prevention Outreach for Parents and Early Adolescents (HOPE) study described in this paper aim to fill some of the gaps in the extant literature by assessing the relationship between aspects of the shelter environment and substance use among youth residents of family shelters. The sample consisted of 243 youth ages 11 – 14 residing in 10 shelters in New York City. In addition, the study was carried out using a community-based participatory research (CBPR) approach. Findings in the study revealed that poorer perceptions of the shelter environment was associated with youth reporting using a greater number of substances during the previous month ($b = -0.05$, $p = 0.02$). Conversely, difficulty following shelter rules was found to be associated with using fewer substances during the previous month ($b = -0.08$, $p = 0.00$). Difficulty following shelter rules and the perceived social environment of the shelter did prove to also be significant moderators of the association between trauma and substance use ($b = -0.02$, $p = 0.01$; and $b = -0.02$, $p < 0.001$ respectively) indicating a potentially protective effect. The findings suggest that initiatives such as Trauma Informed Care (TIC) could potentially prevent substance use among youth if implemented within family shelters. In addition, shelter rules may be successfully preventing substance use among youth although they do not report having favorable opinions of the rules themselves.

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Paper Session 46

3:33 PM-3:51 PM

NON-INVASIVE BIOSENSORS TO DETECT PHYSIOLOGIC CHANGES DURING OPIOID USE

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Background: Opioid analgesic use is a major cause of morbidity and mortality in the US, yet effective treatment programs have a limited ability to detect relapse. The utility of current detection methods is often restricted due to their retrospective nature and subjectivity. Non-invasive, wearable biosensors have the potential to improve detection of relapse by providing objective, real time physiologic data on opioid use that can be used by treating clinicians to augment behavioral interventions. **Methods:** Thirty patients presenting to the Emergency Department who were prescribed intravenous opioid medication for acute pain were recruited to wear a wristband biosensor. The biosensor measured electrodermal activity, skin temperature and locomotion data, which was recorded before and after intravenous opioid administration. Hilbert transform analyses combined with paired t tests were used to compare the biosensor data A) within subjects before and after administration of opioids and B) between subjects based on hand dominance, gender and opioid use history. **Result:** Within subjects, a significant decrease in locomotion and increase in skin temperature were consistently detected by the biosensors after opioid administration. A significant change in electrodermal activity was not consistently detected. Between subjects, biophysiometric changes varied with level of opioid use history (heavy vs. non-heavy users), but did not vary with gender or type of opioid. Specifically, heavy users demonstrated a greater decrease in short amplitude movements (i.e. fidgeting movements) compared to non-heavy users. **Conclusion:** The wearable biosensor showed a consistent physiologic pattern, which can be used to detect an opioid administration event and can distinguish between heavy and non-heavy opioid users. Potential applications of biosensors to drug addiction treatment should be studied further.

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Paper Session 46

3:51 PM-4:09 PM

OPTIMIZATION OF AN INTERVENTION TARGETING THE INTERSECTION OF ALCOHOL USE AND SEXUAL RISK BEHAVIOR AMONG COLLEGE STUDENTS

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Recent data highlights alarmingly high STI rates for young adults in the US. Both sexual risk behaviors and alcohol use are associated with increased STI risk, especially among college students. Current STI interventions have primarily focused on sexual risk behaviors or alcohol use separately, yet there is a clear need for innovative efforts aimed at the intersection of these two behaviors. The current study describes the development of an online behavioral intervention that targets the intersection of alcohol use and sexual risk behaviors to reduce STIs among a diverse group of college students following the multiphase optimization strategy (MOST), a framework for building more efficient and effective behavioral interventions. We demonstrate how MOST is applied throughout the development of the intervention, beginning with the first phase of preparation, where theory and prior research are used to develop a conceptual model that serves as a blueprint for developing the behavioral intervention, to optimization of the intervention using efficient experimental design, to evaluation of the optimized intervention via an RCT to determine its effectiveness when compared to a standard of care or control. The process and justification of identifying candidate intervention components (e.g., components targeting descriptive and injunctive norms, outcome expectancies, self-efficacy to prevent harm) to be included in efficient experimental designs (i.e., factorial experiments) and the decision making process for selecting intervention components (i.e., including only components that achieve an effect size of $d \geq .15$) is fully described. Throughout this process, the importance of the conceptual model as a platform for making decisions is emphasized. This is the first study to use MOST for engineering an STI preventive intervention, yet it is an emerging approach that can be used to address many other significant public health issues.

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Paper Session 46

4:09 PM-4:27 PM

USE OF REMINDER MESSAGES TO IMPROVE UTILIZATION OF AN AUTOMATED TELEPHONE-BASED TREATMENT FOR METHADONE PATIENTS

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Heroin dependence has more than doubled since 2002, and while methadone treatment admissions have increased, high relapse rates and treatment dropout are common (Maremmi et al, 2007). Opioid addiction is a more salient issue for women, however they are less likely to receive treatment than men, due to social, familial, and financial barriers. The Recovery Line is a Cognitive Behavioral Therapy based Interactive Voice Response system that is designed to provide real-time assistance to patients with prerecorded activities and recovery information, accessible by phone. In the pilot trial for the Recovery Line, the most common reason reported for not calling was failing to remember. Therefore, the current study evaluated reminder text messages and gender effects on system utilization. The study evaluated male (N = 25) and female (N = 25) methadone maintained patients with current drug abuse. Patients were randomly assigned to one of three conditions: Immediate-reminder text sent daily during a specified call window. Short- text sent two hours after the call window if the patient had not called that day. Long- text sent 48 hours after the call window if the patient had not called. Patients received 24-hour system access for 4 weeks, and were not instructed on how often or how long to call.

Repeated-measures GLM of the number of Recovery Line calls per week showed a significant interaction of reminder condition by time ($p = .002$). Immediate and Short led to more calls than Long in the first two weeks, followed by similar frequency in weeks 3 and 4. Analysis of total call time showed a significant condition by gender effect ($p = .04$). Female patients did not differ across conditions in total system time. However, males in the Short condition used the system significantly longer than those receiving Long, but Immediate did not differ from either. Findings indicate automated system use can be affected by text message reminders, although effects may dissipate over time, and may affect male patients more than females.

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Paper Session 46

4:27 PM-4:45 PM

A RANDOMIZED CONTROLLED TRIAL OF AN ONLINE RELAPSE PREVENTION PROGRAM FOR ADOLESCENTS IN SUBSTANCE USE TREATMENT

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To assess the efficacy of the online Navigating my Journey (NmJ) program, a total of 129 adolescent-aged participants (13 to 23 years of age) receiving substance abuse treatment participated in a randomized, parallel group design study comparing two conditions (experimental [NmJ] vs. attention control [Nemours Foundation website content]). Participants in the experimental condition were asked to complete a minimum of 12 core lessons over the course of three months. All lesson content was developed to teach evidence-based relapse prevention skills. Examples of lesson topics are: Get the Most Out of Treatment, What Sparks Your Desire to Use?, Seeing Your Strengths, Finding Support at School, Connecting the Dots Between Decisions and Consequences, Small Decisions Can Lead to Lapses. Each lesson was divided into three parts: 1) the actual lesson which presented educational content, 2) a worksheet with directed questions to encourage clients to apply the skills they learned in the lesson to their own lives, and 3) a few different challenges that clients could select to further apply the information they learned in each lesson. Data were collected over four time points: baseline, 1-month follow up, 3-month follow up, and 6-month follow up.

We used a linear mixed modeling (LMM) approach to test for differences between conditions on each outcome. Participants in the experimental condition reported a significantly greater increase in motivation from baseline to 3-month follow up ($t=2.89$, $p=0.004$) and from baseline to 6-month follow up ($t=3.30$, $p=0.001$) as compared to the control participants. In addition, participants in the experimental condition reported a greater decrease in composite drugs score from baseline to 3-month follow up ($t=-2.76$, $p=0.006$), as compared to the control participants. Moderation analyses revealed that age moderated intervention effects on the composite drug score outcome ($F(3,219)=3.79$, $p=0.011$).

In sum, in this pilot study access to this online relapse prevention program, NmJ, was associated with improved motivation to reduce substance use, suggesting that NmJ may be a helpful adjunct resource for relapse prevention treatment with adolescents.

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Paper Session 47

3:15 PM-3:33 PM

ASSOCIATIONS BETWEEN DEPRESSION AND SPUTUM INFLAMMATORY MARKERS IN PATIENTS WITH AND WITHOUT ASTHMA

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Purpose: Asthma is a chronic inflammatory airway disease. Depression has been shown to affect about 20% of asthmatics, and previous work has suggested that inflammatory processes may also be involved in depression. This study sought to evaluate the associations between depression, inflammatory profiles, and pulmonary function in patients with and without asthma undergoing pulmonary and sputum induction tests. **Methods:** 117 patients with ($n=48$) and without ($n=69$) pre-existing asthma (43% women; M [SD] age=42 [11] yrs) were recruited. All patients underwent a sociodemographic and medical history interview, completed the Beck Depression Inventory (BDI-II), and underwent a methacholine challenge (PC20) followed by sputum induction (neutrophils, eosinophils, lymphocytes and macrophages). General linear models examined interactions between asthma (yes/no) and depression (BDI-II score) on all measures adjusting for age, sex, inhaled corticosteroid dose and smoking status. **Results:** There was a main effect of BDI-II ($\beta=0.07$, $p=.043$) and a group \times BDI-II interaction ($\beta=-0.12$, $p=.038$) on %lymphocytes, such that higher BDI-II scores were associated with higher % lymphocytes in patients without asthma. No associations were found between BDI-II score and any other inflammatory marker or PC20. **Conclusion:** Higher depression symptoms were associated with higher % lymphocytes among patients not meeting diagnostic criteria for asthma following standard testing. **Clinical implications:** Findings suggest that depression may alter inflammatory markers that cause symptoms that mimic asthma, leading to costly (and potentially unnecessary) investigations. Clinicians should consider screening for depression as part of the standard evaluation of asthma.

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Paper Session 47

3:33 PM-3:51 PM

THE IMPACT OF ANXIETY DISORDER AND ASTHMA DIAGNOSES ON AIRWAY HYPER-RESPONSIVENESS TO METHACHOLINE (PC20) CHALLENGE

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Introduction: Occupational asthma (OA) is characterized by variable airflow limitation and/or airway hyper-responsiveness (AHR) to stimuli present in an individual's work environment, and not to stimuli encountered outside the workplace. Research in asthma has demonstrated an association between psychiatric disorders and various indices of impaired airway function and AHR. Anxiety disorders (AD) are common in asthma patients and presents with physiological symptoms (such as breathlessness and hyperventilation) as well as feelings of tension, agitation, fear and apprehensiveness. Patients with comorbid regular asthma (RA) and AD who exhibit "breathlessness" at work could be misconstrued as having OA because of symptom overlap and confusion. Our study examined the impact of AD on AHR of patients with OA, RA and no asthma (NA). **Methods:** 110 patients (M age: 42 ± 11 yrs; 35% women) were grouped as having OA ($N=27$), RA ($N=36$) or NA ($N=47$), as per clinical diagnosis. All participants completed a methacholine challenge to measure AHR (PC₂₀ - Provocative Concentration of methacholine causing a 20% fall in FEV₁). The methacholine challenge was completed after undergoing a specific inhalation challenge (SIC) test. The presence of any AD was assessed using the PRIME-MD (brief psychiatric interview). GLMs were used to examine group differences in PC₂₀ responses by AD. **Results:** Analyses, adjusting for age, sex, smoking status, and inhaled corticosteroid medication dose, revealed a group by AD interaction on PC₂₀ ($F=3.88$, $p=.024$), with patients in the RA group with an AD having higher PC₂₀ response (geometric M=13.99) than RA patients without an AD (geometric M=3.66), $p=.02$. This indicates better AHR in RA patients with an AD. No post-hoc differences for AD were seen for the OA ($p=.59$) or NA group ($p=.35$). **Conclusion:** Our results indicate that AD's in patients with RA was associated with better AHR. The presence of AD in RA patients could be inducing symptoms that patients and physicians may attribute to possible OA but may be more related to their AD. Screening RA patients for AD could provide important information when investigating possible OA, given the large overlap in symptoms which could be attributed to their AD rather than OA.

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Paper Session 47

3:51 PM-4:09 PM

THE IMPACT OF ANXIETY SENSITIVITY IN ASTHMA PATIENTS WITH PANIC DISORDER ON RESPIRATORY RESPONSE TO A STANDARD PANIC CHALLENGE

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Introduction: There is a link between anxiety and impaired airway function such as increased dyspnea and bronchoconstriction in asthmatics. Panic disorder (PD) is common among asthmatics and is associated with worse asthma outcomes, possibly due to panic-induced respiratory changes. Anxiety sensitivity (AS) is a trait associated with excessive fear of anxiety-related sensations based on beliefs about their harmful consequences, and is high in patients with PD. This study evaluated the impact of AS on respiratory measures (CO₂ production [VCO₂; ml/kg/min], O₂ production [VO₂; ml/kg/min], ventilation rate [VE; L/min] and tidal volume [TV; L]) in asthmatics with PD during a panic challenge. **Methods:** 17 patients (M age 44±15yrs; 82% women) with physician-diagnosed asthma and PD completed the anxiety sensitivity index (ASI) to assess AS, and then completed a panic challenge (one inhalation of 35% carbon dioxide [CO₂]). PD was confirmed by meeting DSM-IV criteria for a primary diagnosis of PD. Breath-by-breath respiratory measures were assessed by a gas analyzer (Jaeger Oxycon Pro Carefusion). Mixed models assessed the impact of AS and time (pre and post 35% CO₂ inhalation) on respiratory measures. **Results:** Analyses, adjusting for age, sex, and PC₂₀ response, revealed an ASI by time interaction for VCO₂ ($F=4.0$, $p=.047$) and TV ($F=27.5$, $p<.001$). Post-hoc analyses revealed post-CO₂ challenge, patients with high ASI had a significantly larger VCO₂ increase ($\Delta\beta=779$) than patients with low ASI ($\Delta\beta=653$) and remained higher for longer after the challenge, taking longer to return to pre-testing VCO₂ levels. Similar responses were observed for TV. No interactions were seen for VO₂ or VE. **Conclusion:** Asthma patients with PD and higher ASI had increased and more prolonged VCO₂ and TV responses to the panic challenge than patients with PD and lower ASI. This could indicate that in addition to PD, AS contributes above diagnoses of PD to respiratory responses to a panic-inducing challenge. As well as the presence of PD in asthma patients, AS seems to be critical in determining the respiratory response to a panic inducing challenge.

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Paper Session 47

4:09 PM-4:27 PM

THE ROLE OF DISTRESS TOLERANCE IN TERMS OF ANXIETY SENSITIVITY AMONG YOUNG ADULTS WITH ASTHMA

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Asthma often co-occurs with panic psychopathology (Goodwin et al., 2003; Hasler et al., 2005), resulting in poorer asthma control, decreased quality of life, excessive use of medications, and more frequent hospital visits (Feldman et al., 2005; Nouwen et al., 1999). In order to better understand the mechanisms underlying the panic-asthma association, recent research has focused on the role of the panic-related risk factor of anxiety sensitivity (AS), defined as the fear of arousal-related sensations due to their perceived negative physical, cognitive, and social consequences. AS has been shown to significantly predict asthma-related anxiety (Carr et al., 1995), poorer physical and emotional health (McCauley et al., 2007), and poorer asthma control and quality of life (McLeish et al., 2011; Avallone et al., 2012). Given the important role that AS plays in asthma, a critical next step in this area of research is to examine other malleable risk factors that are predictive of AS. One such factor to examine in this regard is distress tolerance (DT), defined as the ability to withstand negative emotional states (Simons & Gaher, 2005). Indeed, low DT is associated with increased risk for anxiety disorders as well as greater AS (Keough et al., 2010). Therefore, the aim of the current study was to examine the unique predictive ability of DT in terms of global AS and the three specific AS domains of social, cognitive, and physical concerns among young adults with asthma ($n = 101$; 75.5% female, $M_{age} = 19.69$, $SD = 3.77$). Results indicated that, after controlling for the effects of gender, race, and negative affect, DT significantly predicted global AS (3.5% unique variance, $b = -.21$, $p = .029$) as well as AS-Social Concerns (4% unique variance, $b = -.22$, $p = .019$) and AS-Cognitive Concerns (4% unique variance, $b = -.22$, $p = .028$), but not AS-Physical Concerns. These findings suggest that individuals with asthma who have greater difficulties tolerating negative emotions are more likely to fear anxiety-related sensations because of their feared social and cognitive consequences, which could potentially result in greater difficulties with asthma management.

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Paper Session 47

4:27 PM-4:45 PM

THE MEDIATOR EFFECT OF SMOKING STATUS ON THE ASSOCIATION BETWEEN ANXIETY DISORDERS AND ASTHMA CONTROL IN ASTHMA PATIENTS

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Introduction: High anxiety symptoms tend to worsen asthma control. Both smoking and high alcohol consumption have been linked with anxiety and may influence poor asthma control. However, no studies have examined the role of smoking and alcohol consumption on the anxiety-asthma control relationship. This study aimed to explore the mediation and moderation of smoking and alcohol consumption on the association between anxiety and asthma control in an adult sample. **Methods:** A total of 640 adults with confirmed asthma (M (SD) age = 49.0 (?..?), 61% women) were recruited from an outpatient asthma clinic. They completed a battery of questionnaires, including sociodemographic, medical history, health behaviors, and psychological assessments, including the Anxiety Sensitivity Inventory (ASI). Asthma control was evaluated using the Asthma Control Questionnaire (ACQ). **Results:** ASI was positively associated with ACQ, i.e., higher anxiety was related to worse asthma control. Mediation analyses, using Hayes' process macro, revealed an indirect effect on the relationship for smoking status (never, past, or current) ($b=0.001$, $p=.042$) but not alcohol ($b=-0.001$, $p=.796$), with the ASI-ACQ relationship being stronger in current smokers. No moderation effect was found for neither smoking status nor alcohol. **Conclusion:** Consistent with our hypothesis, the relationship between anxiety and worse asthma control was mediated by smoking status, though alcohol did not. This suggests that anxiety may have a negative impact on asthma control in large part through their effect on current smoking habits. Future studies should investigate the potential role of smoking cessation interventions on the anxiety-asthma control relationship and mechanisms through which smoking impacts this association.

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CITATION AND MERITORIOUS AWARD WINNER
Paper Session 48 3:15 PM-3:33 PM

ENROLLING WITH OTHERS ENHANCES PARTICIPATION RATES IN A COMMUNITY-BASED BEHAVIORAL WEIGHT LOSS PROGRAM

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BACKGROUND: Weight loss is associated with program adherence in behavioral weight loss interventions. Engaging the support of friends and family, particularly those who are also attempting weight loss, is one hypothesized strategy for promoting adherence to the weight loss intervention. However, most behavioral weight loss intervention trials limit enrollment to individuals, so less is known about the impact of allowing participants to enroll with friends and family members on adherence and weight change. This study examined the relationships between enrolling alone or with others and adherence to a weight loss intervention. **METHODS:** Data are from Lose Now NC, a randomized trial of a 4-month, Internet- and mobile-delivered weight loss intervention with monthly in-person group sessions delivered in a community setting. Participants were allowed to enroll with up to 3 friends or family members. We examined if participants joined alone or with others, characterized the types and number of relationships, and evaluated the associations between enrollment characteristics, program adherence, and weight outcomes. **RESULTS:** Participants ($N=195$) were age 46.3 ± 10.8 years; BMI 37.9 ± 8.4 kg/m²; 55% identifying as non-white; and 90% female. The majority of participants joined with at least one friend or family member (69% vs. 31%). The relationships among those who enrolled with others included friends only (25%), family only (22%), and both friends and family (26%). Of those joining with others, 33% enrolled with one other person and 36% enrolled with 2-3 others. Participants who joined with 2-3 others were more likely to attend at least half of the group sessions compared to those who joined with only one other and those who joined alone (63% vs. 48% vs. 41%, $p=.038$). A significantly higher proportion of non-white participants enrolled with others compared to white participants joining with others (60% vs. 40%; $p < .05$). Mean percent weight loss did not differ between those enrolling alone or with others ($-2.88\% \pm 3.89$ vs. $-2.71\% \pm 4.45$; $p>.05$; ITT BOCF) or by type of relationship ($p=.81$). **CONCLUSIONS:** Study findings indicate that participants are interested in joining weight loss programs with their friends and family members and attend more of the offered group sessions. Encouraging participation with friends and family may be a feasible way to promote program adherence.

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Paper Session 48

3:33 PM-3:51 PM

USE OF PERCEPTUAL MAPPING TO ENCOURAGE INFORMED DECISION MAKING ON CLINICAL TRIALS IN AFRICAN AMERICAN CANCER PATIENTS

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Background: African Americans participate in clinical research at lower rates than Whites, despite carrying a disproportionately high cancer burden. While studies on barriers to participation among these patients have occurred, limited research has focused on the unique perceptions of clinical trials and facilitators to participation compared between those who have and have not participated, and how those perceptions are related in informed decision making. **Methods:** We used perceptual mapping (multidimensional scaling) and vector modeling to compare barriers and facilitators to participation in African American cancer patients who had and had not participated in two Philadelphia hospitals. These methods allow for 3-Dimensional maps to show how barriers and facilitators to decision making are related, and how message/intervention strategies can be tailored for a specific audience. **Results:** Forty-one patients completed the study (51.2% female; 53.7% had not participated in a clinical trial; mean age 60). Perceptual maps show clear conceptual differences about the worth and barriers to clinical trial participation. Those who had not participated did not see any benefits to being in a clinical trial, with all variables far away from the group in the perceptual space. Vector modeling indicates key message strategies for those who have not participated should focus on understanding of the clinical trial process and encouraging patients and doctors to talk about the benefits of participation. Patients who had participated understood the clinical trial process and felt their doctor had given them enough information, compared to their counterparts. Mistrust was not found to be a significant barrier to those who had not participated, indicating that focusing on this aspect in interventions is not addressing variables that will "move" patients towards participating. **Conclusions:** Perceptual mapping and vector modeling methods can elucidate message strategies to encourage clinical trial participation and show how to effectively address barriers to clinical trial participation. Spending time discussing the clinical trial process, addressing negative perceptions of clinical trials and promoting their benefits would be more beneficial for African American patients to make an informed decision, rather than interventions focusing on mistrust.

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Paper Session 48

3:51 PM-4:09 PM

DECISION MAKING BARRIERS AND FACILITATORS FOR PEDIATRIC NEUROMUSCULAR TRIALS

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Understanding factors associated with decisions to enroll children in clinical trials is especially important for rare diseases such as Duchenne/Becker muscular dystrophy (DBMD) and spinal muscular atrophy (SMA), where significant challenges to trial design and recruitment exist. This study describes parent participants' trial communication with clinicians, attitudes, perceived barriers, and facilitators to trial participation. We assessed which factors were associated with parental attitudes toward clinical trials for DBMD and SMA. Two hundred three parents whose children have not participated in a clinical trial completed an online survey. Parents were recruited through advocacy organizations, a self-report registry, and clinics. Across disorders, about 65% wanted/very much wanted their child to participate in a trial, about 30% were unsure, and about 2.5% did not want/very much did not want their child to participate. We compared decision making factors of those interested in clinical trials to those who were ambivalent. Both groups endorsed placebo-controlled trials as a barrier and the SMA group also endorsed the need for more information about trial risks, lack of potential benefits, and day-to-day requirements. A wide range of facilitators were endorsed, including confidence in the trial and researcher, access to trials and to the drug post-trial, and clinician recommendation. On logistic regression, lower perceived barriers ($B=1.40$, $p>.001$), provider attitudes about participation ($B=1.22$, $p=.02$), normative agreement ($B=0.84$, $p=0.3$), and higher levels of provider communication about research ($B=-0.47$, $p=.03$) were significantly associated with trial interest (χ^2 (4, $N=188$) = 81.11, p

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Paper Session 48

4:09 PM-4:27 PM

DO THEY REALIZE THEY'RE DISCLOSING THEIR HEALTH STATUS? ETHICAL CHALLENGES OF SOCIAL MEDIA RECRUITMENT FOR CANCER RESEARCH

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Introduction: Social media (SM) offer promising ways to improve the reach, efficiency and effectiveness of recruitment efforts at a reasonable cost, but they raise unique ethical challenges. We describe how we used SM to recruit for a study on dietary self-management behaviors, ethical concerns raised by our institutional review board (IRB), and strategies we developed to address them. **Case:** The case in question was a focus group study to understand the nutrition and culinary attitudes and behaviors of cancer patients and their caregivers, and their views on web-based self-management tools. We used traditional and web-based methods to recruit a total of 20 participants for 5 focus groups. Our SM recruitment strategy was multi-channel. Using an established blog on our hospital website, we published a recruitment post and shared the link on our Twitter and Facebook pages over 4 weeks. **Discussion:** The IRB raised concerns about potential threats to participants' privacy. The simple act of clicking on a recruitment notice provides data to third party companies leaving an identifiable trail. Questions included: What are the privacy policies of the selected platforms? Are users aware of the public nature of their posts? How will you protect users from privacy breaches or inadvertently sharing information about themselves? We generated strategies to address the IRB's concerns, and collaboratively refined them. These included: posting a disclaimer on our blog and Facebook page, revising messages to reduce disclosure of potentially identifying information, and alerting/removing posts with potentially identifying information. Initially intent to reject our study, the IRB approved our revised SM recruitment strategy, which has been used to guide their review of future research involving SM. **Conclusion:** Researchers, IRBs and study participants are often unaware of the ethical risks of SM research recruitment and there is no official guidance to this regard. We conclude with a set of considerations for researchers seeking to use SM for recruitment.

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Paper Session 48

4:27 PM-4:45 PM

QUIT4BABY COMMUNICATION: RECRUITING PREGNANT WOMEN FOR A RANDOMIZED CONTROLLED TRIAL

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Recruiting pregnant smokers is often challenging given the stigma associated with smoking during pregnancy. Text4baby is the largest text messaging program aimed at pregnant women and has enrolled over 900,000 people since launch. The purpose of this study was to determine the feasibility and effectiveness of recruiting pregnant smokers for a study to evaluate the efficacy of Quit4Baby, a smoking cessation text messaging program for pregnant women, from the list of text4baby subscribers. We also wanted to determine which of 3 frames would be most effective in recruiting pregnant smokers to the study: a pride message ("If you smoke, it's important to quit. You'll be proud you did!"), an empathy message ("Quitting smoking is tough but it's easier with help."), and a message that emphasized a free service ("Want FREE messages to help you quit smoking?") followed by a prompt asking them to reply if they were interested in learning about the study. A fourth message with a fear frame was considered, but rejected because of concerns that it might cause people to unsubscribe from text4baby. Three messages were broadcast to all text4baby subscribers who were less than 7 months pregnant, with one message/week targeting a particular state. Overall, 4,593 text4baby subscribers were sent messages over a one month period, 301 (6.6%) replied to the recruitment message expressing interest, 44% (133) were reached by phone for follow-up, of those 35% (47) were ineligible, 17% (23) were no longer interested, and 47% (63) were enrolled. The response was 6.7% for the pride message, 6.5% for the empathy message, and 6.4% for free message, and enrollment was 1.6% for pride, 1.1% for empathy and 1.5% for the free message. Results from this experiment indicate that there were no significant differences in response or enrollment for the different frames. However, we did demonstrate success in enrolling a large number of Quit4Baby study participants in a rapid manner. Future studies should consider employing similar text-message based recruitment strategies and test other frames such as fear or guilt to further examine the impact of these messages on recruitment.

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MERITORIOUS AWARD WINNER

Paper Session 49

3:15 PM-3:33 PM

GENETIC TEST-REPORTING AND COUNSELING FOR MELANOMA RISK IN MINORS: INCREASING SUN-PROTECTION WITHOUT INCREASING DISTRESS

Tammy K. Stump, M.S.¹, Lisa G. Aspinwall, PhD², Wendy Kohlmann, MS, CGC³, Marjan Champine, M.S., LCGC³, Sancy Leachman, MD, PhD⁴¹Psychology, University of Utah, Salt Lake City, UT; ²University of Utah, Salt Lake City, UT; ³Huntsman Cancer Institute, Salt Lake City, UT; ⁴Oregon Health and Science University, Portland, OR

Predictive genetic testing for melanoma risk can inform individuals of their elevated risk status prior to disease onset, when prevention and early detection efforts are likely most beneficial. Carriers of the *CDKN2A/p16* mutation have a 76% lifetime risk of developing melanoma, but regional variation in penetrance suggests that risk depends on UVR exposure. Minors in families with a *CDKN2A/p16* mutation may especially benefit from genetic testing because childhood sunburns are a strong contributor to lifetime melanoma risk. In the present study, we recruited a sample of 18 children between the ages of 10 and 15 ($M_{age} = 12.43$, $SD = 1.85$; 56% male), who had a parent who was a *CDKN2A/p16* mutation carrier. One month after a baseline visit and pre-test counseling, participants received their test results along with education on skin exams and sun protection; 50% of the participants tested positive. Using the Sun Habits survey, we found that self-reported sun-protection at baseline was inadequate in this high-risk sample. Prior to test-reporting, 72% of minors reported a sunburn in the past month ($M = 1.61$, $SD = 1.54$), and only half (56%) of minors reported using at least one sun-protection method (sunscreen, protective clothing, shade) often or always in the past week. One year later, the proportion of minors reporting sunburns decreased significantly to 33%, $p < .05$; $M = .5$, $SD = .86$. Likewise, the proportion of minors reporting using at least one sun-protection method often or always increased to 89%, $p < .05$. These improvements occurred equally among carriers and non-carriers. To examine the important concern that providing genetic test results to minors may increase their distress, we assessed depression, anxiety, and cancer worry at one week, one month, and one year following test reporting. Importantly, we did not observe increases in distress at any assessment. Current policies restrict the use of predictive genetic testing in minors to conditions in which the disease presents in childhood. While melanoma onset occurs in adulthood, the findings of this study suggest an expanded role for genetic testing in minors to alert them about health risks that may be modified by behavioral and lifestyle changes early in life.

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Paper Session 49

3:33 PM-3:51 PM

DEVELOPING SHARED APPRAISALS OF RISK THROUGH FAMILY HEALTH HISTORY FEEDBACK

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Family health history (FHH) is a genomic tool that confers increased risk of several common, complex diseases, such as diabetes and heart disease. As such, FHH-based risk feedback offers an intervention approach that can potentially spark communal coping processes aimed at family engagement in risk-reducing behaviors. Communal coping is characterized by three interpersonal processes: 1) communication about a shared health threat, such as inherited disease risk; 2) formation of shared appraisals of the threat; and 3) initiation of cooperative strategies to reduce the threat. Here, we report on the effect of a FHH-based intervention on consensus among family members regarding their FHH, a proxy for shared appraisals of risk. Kinship tie and risk communication are investigated as interpersonal mechanisms underpinning the development of FHH consensus. Participants ($N = 443$) from 151 intergenerational Mexican heritage families provided detailed FHHs at baseline and 10-months following receipt of feedback. On average, family-level consensus in FHH improved over the 10-months, with agreement on 70% of participants' shared FHH at baseline assessment shifting to 78% at follow-up. Both intervention and interpersonal factors were important in explaining this shift. The largest shift to consensus (12%) occurred between younger parent-adult child participant dyads, particularly when the parent, and not the adult children, received FHH-based risk assessments. Reciprocal discussion of family risk among participants predicted shifts from disagreement to agreement in relatives' health history. However, the additional provision of risk-reducing behavioral recommendations, in conjunction with risk assessments, to all participating family members reduced the likelihood of shifts from disagreement to agreement. Results suggest that providing parents with FHH-based risk assessments activates communal coping through increased reciprocal discussion of risk.

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Paper Session 49

3:51 PM-4:09 PM

FAMILY CANCER RISK: THE RELATIVE ACCURACY OF FAMILY CANCER HISTORY KNOWLEDGE IN A YOUNGER POPULATION

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Background: Cancer is the second leading cause of death in the United States, and having a family history increases one's risk, with younger age of family member at cancer-diagnosis indicating need for increased surveillance. Knowledge of family cancer history can aid in making healthier lifestyle choices (i.e., diet, physical exercise, sunscreen use) to reduce risk, and in making informed screening choices, but individuals may be unaware of their own family cancer risk, and this may be especially true in younger adults. Younger adults cannot make early cancer-risk-reducing decisions if they are unaware of their own family history. This mixed method feasibility study examined knowledge of family cancer history in a pre-screening population. **Methods:** 51 individuals age 21-33 (M=24) completed demographics and information regarding knowledge of personal family cancer cases including age at diagnosis and cancer type; then confirmed information with a knowledgeable relative. Personal interviews were completed. **Results:** Our sample was 49% male, mostly White (89%), and mostly educated (52.2% graduated college/graduate school). Most (76.4%) had incomplete information regarding their own family cancer history; 25.5% had incomplete information regarding family members' type of cancer, and nearly half (49%) reported cancer cases in their family previously unknown to them including one with melanoma skin cancer. In qualitative analysis, many indicated surprise: "She had ovarian cancer so that was surprising to me"; "I didn't know my grandma had breast cancer!" and "I had no idea." **Conclusions:** Younger individuals who are unaware of their own family cancer history may not make risk-reducing lifestyle choices such as diet, exercise, sunscreen use, and early-screening if needed. Younger individuals in our study were mostly unknowledgeable about their own family cancer history. Families should determine ways to share cancer family history to allow individuals to begin risk-reducing behaviors early.

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Paper Session 49

4:09 PM-4:27 PM

IMPACT OF INCLUDING GENOMIC RISK ON LITERACY DEMAND WITHIN ALZHEIMER'S DISEASE RISK DISCLOSURE VISITS

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Complex language used to convey genomic information has been shown to negatively impact patient understanding. This may be particularly true for individuals with diminished cognitive function seeking genetic counseling for Alzheimer's disease (AD) risk. Little is known about how risk is communicated to patients with mild cognitive impairment (MCI) or the extent to which that might differ when risk information is presented with and without genetic test results. We evaluated the literacy demand of visits derived from the REVEAL IV study in which AD risk was disclosed to patients with MCI. REVEAL patients were randomized to risk analysis: (1) including both genetic and non-genetic factors or (2) incorporating only non-genetic factors. Providers conducted semi-structured counseling visits including: (1) review of previously covered information, ending with disclosure of individual genetic status (when applicable); (2) discussion of individual 3-year risk estimates; and (3) counseling about coping and management. Recordings of visits were transcribed, and general language complexity (reading grade level) of providers' speech was calculated using MS Word. To capture interactivity, text was divided into speaker turns, with a turn defined as an uninterrupted segment of a speaker's speech. Turn density (number of words/turn) was calculated by counting speaker turns. Analyses of 30 visits show that providers spoke an average of 3.5 times more words than patients per visit ($F=61.9$, $p<.0001$). Language complexity was low (mean reading grade level 6.2 ± 1.42 ; range 3.7-8.1) and did not differ between visits with and without genetic information. Providers' turn density was variable (mean 45.9 ± 25.7 words/turn; range 14.4-82.3). Genetic risk visits were significantly longer and tended toward more dense initial review segments than those without this information. As language complexity and interactivity can affect a patient's ability to recall and understand risk information, attention should be paid to these communication factors, particularly with patients with MCI.

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Paper Session 49

4:27 PM-4:45 PM

INTEREST AND COMMUNICATION PREFERENCES FOR GENE PANEL TESTING AMONG HISPANIC AND NON-HISPANIC WHITE BRCA1/2 NEGATIVE FAMILIES

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Background: Until recently, genetic testing for hereditary breast cancer has focused on assessing for BRCA1& BRCA2 gene mutations. Advances in DNA sequencing make it possible to test many genes simultaneously using newly developed multiplex gene panels. Guided by the Commonsense Model of Self Regulation, we examined correlates of interest in multiplex testing among female members of *BRCA1/2* negative families. **Methods:** 213 Hispanic and non-Hispanic white women completed a mail or telephone survey. Respondents included women with a previous breast cancer diagnosis who were considered at increased risk of hereditary breast cancer and did not have a *BRCA1/2* mutation, and their first-degree relatives. The survey elicited their interest in multiplex testing, communication preferences and sociodemographic, psychological, and clinical factors. Stepwise logistic regression, controlling for intra-familial clustering, was used to identify factors associated with testing interest. Chi-square tests assessed ethnic differences in communication preferences. **Results:** Interest in multiplex testing was high (84%) and did not considerably change across behavior modification scenarios (chemoprevention, lifestyle behaviors, and enhanced screening). In multivariable analysis, factors significantly associated with interest in genetic testing were having had a mammogram in the past two years (Odds ratio (OR)=4.7, 95% confidence interval (CI): 1.8–12.6) and high cancer worry (OR = 3.1, 95% CI: 1.2–7.7). Interest did not differ by cancer status or ethnicity. The most common preferred genetic communication modes were: genetic counselors, oncologists, and print materials. However, non-Hispanic women were more likely to prefer receiving web-based risk communication ($p < 0.001$) than Hispanic women. **Conclusion:** Hispanic and Non-Hispanic white women from *BRCA1/2* negative families have a high level of interest in multiplex testing. Cancer-related emotions, health care utilization behaviors as well as communication preferences should be considered in developing genetic risk communication strategies.

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Paper Session 50

3:15 PM-3:33 PM

CAN A MIND BODY TRAINING PROGRAMME BRING ABOUT A LASTING IMPROVEMENT IN QUALITY OF LIFE AND LUNG FUNCTION IN PATIENTS WITH ASTHMA?

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This RCT evaluated the efficacy of an 8-week Mindfulness-Based Stress Reduction (MBSR) group-based programme (n=42) in improving asthma related quality of life and lung function compared with an educational control programme (n=41) in adults with mild, moderate or severe persistent asthma recruited at a university hospital outpatient primary care and pulmonary clinic. Primary outcomes were quality of life (Asthma Quality of Life Questionnaire) and lung function (change from baseline in 2-week average morning peak expiratory flow (PEF)). Secondary outcomes were asthma control assessed by 2007 National Institutes of Health/National Heart Lung and Blood Institute guidelines, and stress (Perceived Stress Scale (PSS)). Follow-up assessments were conducted at 10 weeks, 6 and 12 months. At 12 months MBSR resulted in clinically significant improvements from baseline in quality of life (differential change in Asthma Quality of Life Questionnaire score for MBSR vs control: 0.66 (95% CI 0.30 to 1.03; $p < 0.001$)) but not in lung function (morning PEF, PEF variability and forced expiratory volume in 1 s). MBSR also resulted in clinically significant improvements in perceived stress (differential change in PSS score for MBSR vs control: -4.5 (95% CI -7.1 to -1.9; $p=0.001$)). There was a trend but no significant difference ($p=0.301$) in percentage of patients in MBSR with well controlled asthma (7.3% at baseline to 19.4%) compared with the control condition (7.5% at baseline to 7.9%). MBSR produced lasting and clinically significant improvements in asthma-related quality of life and stress in patients with persistent asthma, without improvements in lung function. This is the first report of a controlled trial of a mind body training programme that used an active control programme, followed patients for 12 months, and included clinically accepted disease outcome markers. It has significant implications for the clinical management of asthma. Learning Objectives: Understand the role of emotions in asthma self-care; Describe the mechanisms of mindfulness training; Describe the RCT pilot study's procedures and outcomes.

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Paper Session 50

3:33 PM-3:51 PM

REDUCTIONS IN REWARD-DRIVEN EATING MEDIATE EFFECTS OF A MINDFULNESS-BASED PROGRAM ON WEIGHT LOSS IN OBESITY: DATA FROM AN RCT

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Background. Many individuals with obesity report that they overeat despite the intention to achieve and maintain weight loss. Hence, it is not surprising that long-term weight loss maintenance tends to be poor following diet and exercise lifestyle interventions targeting obesity. Some individuals with obesity describe a strong drive to eat for hedonic properties of food. Such reward-driven eating is characterized by a lack of control over eating, a lack of satiety, and preoccupation with food. Data also demonstrate that greater psychological stress is predictive of weight regain following weight loss. Mindfulness training may address these two barriers to weight loss by promoting self-regulatory attentional control, which may reduce reward-driven eating and psychological stress. **Purpose.** The aim of the current study was to identify mediators of weight loss maintenance in the Supporting Health by Integrating Nutrition and Exercise (SHINE) randomized controlled trial, which compared the effects of a 5.5-month diet and exercise intervention with versus without mindfulness training on weight loss among adults with obesity (N=194; BMI range 30–45). **Methods.** We tested whether changes in reward-driven eating and psychological stress at 6 months (post-intervention) were mechanisms by which intervention arm impacted weight at 12 and 18-months post-baseline (follow-up). **Results.** In intention-to-treat multiple-mediator models, reward-driven eating (but not perceived stress) mediated 47.1% of the total intervention effect on weight at 12 months [$\beta = -0.06$, $SE(\beta) = 0.03$, $p = .030$, 95% CI (-0.12, -0.01)]. Specifically, mindfulness participants reported significantly greater reductions in reward-driven eating at 6 months, which, in turn, significantly predicted weight loss at 12 months. This mediated effect was reduced at 18 months ($p = .396$), accounting for 23.0% of the total intervention effect, despite similar weight loss to 12 months. **Conclusions.** Mindfulness-based weight loss programs may foster initial weight loss maintenance among individuals with obesity by reducing reward-driven eating (clinicaltrials.gov registration: NCT00960414).

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Paper Session 50

3:51 PM-4:09 PM

IMPACT OF A LOVINGKINDNESS MEDITATION INTERVENTION ON KEY OUTCOMES DURING THE PERI-SURGICAL PERIOD OF BREAST CANCER

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Breast cancer is the most common type of cancer among women in the United States. Despite more women undergoing treatment and increased survival rates, many women continue to suffer from emotional distress and physical symptoms associated with treatments for breast cancer (e.g., surgery). To date, there has been limited research investigating the efficacy of psychosocial interventions for breast cancer patients during the surgical time frame. This randomized controlled pilot study examined the effect of a lovingkindness meditation intervention on key psychological and physical outcomes surrounding breast surgery. Study participants were 60 women who received an abnormal breast biopsy result and underwent breast surgery (White=73.6%; African American=22.6%; Asian American=3.8%; Age M=56). Participants were randomly assigned to one of three treatment conditions at breast biopsy: 1) lovingkindness meditation, 2) music, 3) standard care. Assessments of emotional distress, physical symptoms, and positive psychosocial resources occurred prior to patients' biopsy, following their biopsy, one week after receipt of their biopsy results, and one week following breast surgery. Results of multilevel model analyses demonstrated that lovingkindness meditation significantly improved anxiety ($B = -2.69$, $SE = 1.33$, $t = -2.02$, $p = 0.05$), pain ($B = -0.45$, $SE = 0.21$, $t = -2.10$, $p = 0.04$), self-compassion ($B = -0.22$, $SE = 0.07$, $t = -3.00$, $p = 0.004$), mindfulness ($B = 2.53$, $SE = 0.63$, $t = 4.01$, $p < 0.001$, 95% CI = 1.28, 3.78), and heart rate ($B = -4.24$, $SE = 1.70$, $t = -2.50$, $p = 0.02$) levels over time compared to control conditions. These findings provide preliminary evidence for the efficacy of a brief lovingkindness meditation intervention for breast cancer patients during the surgical time frame. Improving psychological and physical well-being of patients during the surgical time frame has the potential to improve longer-term health outcomes during adjuvant treatment and survivorship. Psychosocial interventions that target positive psychosocial resources during the peri-surgical period of breast cancer could be an important area of future research.

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Paper Session 50

4:09 PM-4:27 PM

ENHANCING ILLNESS ACCEPTANCE AND ALLEVIATING AFFLICTIVE EMOTION FOR PSORIASIS PATIENT BY INTEGRATIVE BODY-MIND-SPIRIT MODEL

Yat-Lui Fung, MAP¹, Celia H. Y. Chan, assistant professor /PhD²¹The University of Hong Kong, Hong Kong.; ²The university of HongKong, Hong Kong

Background: People with psoriasis normally experience stigmatization and embarrassment which can easily lead to low self-esteem and psychological distress. It is quite common that patient will have difficulties in accepting illness and may suffer from afflictive emotion. Integrative Body-Mind-Spirit (IBMS) is a psychosocial intervention model that is empirically found effective in improving the holistic well-being of various kinds of clientele. This study aims to apply IBMS in improving the psychosocial well-being of people with psoriasis. **Method:** Thirty-nine adults suffering from mild to moderate levels of psoriasis were recruited from a psoriasis patient association in Hong Kong. They were assigned into two groups and each patient attended six 3-hour weekly IBMS intervention group sessions. Outcome measures including Illness Cognition Questionnaire (ICQ) and Holistic Well-Being Scale (HWS), were assessed before (T0) and after intervention (T1). Paired t-tests were conducted to compare the changes between two time points. **Result:** Mean age of the participants was 51.0 (SD=13.1) and the majority of them were male (n=24, 62%). The mean age of onset of disease was 36.0 (SD=16.7) and duration of 13.0 years (SD=10.6). Paired t-test (T1-T0) showed that there were significant improvements in the acceptance score [95% CI: 2.00 (SD=2.87), $t = 4.36$, $p < .001$] and perceived benefit score [95% CI: 2.05 (SD=3.14), $t = 4.08$, $p < .001$] of ICQ, and the afflictive emotion score [95% CI: -4.36 (SD=8.09), $t = -3.37$, $p = .002$], afflictive sensation score [95% CI: -5.23 (SD=6.12), $t = -5.34$, $p < .001$], and non-attachment score [95% CI: 3.10 (SD=8.70), $t = 2.23$, $p = .032$] of HWS. Other scores in ICQ (helplessness) and HWS (afflictive ideation, mindful-awareness, general vitality, spiritual self) also showed a trend in improvement. **Conclusion:** Results from this study provided clear evidence that the IBMS group intervention could enhance the illness acceptance and alleviate afflictive emotion for people with psoriasis. Prospective randomized-controlled trials were suggested in future study.

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Paper Session 50

4:27 PM-4:45 PM

MINDFULNESS MODERATES THE RELATION BETWEEN BODY IMAGE AND DISORDERED EATING ATTITUDES

Amy Heard, B.A., Alexandra Kirsch, M.A., Colleen Conley, PhD, Amy Bohnert, PhD

Loyola University Chicago, Chicago, IL

The pervasiveness of poor body image among women has been established, with some studies estimating that over half of U.S. women are dissatisfied with their bodies (Cash & Henry, 1999). College women are especially vulnerable to body image concerns (Nelson, Story, Larson, Neumark-Sztainer, & Lytle, 2008), and as a result some also experience increased levels of disordered eating (Mazzeo, 1999). However, all women with poor body image do not go on to develop an eating disorder, which may be due to protective factors such as mindfulness, the act of being aware of the present moment and accepting of the thoughts and feelings that go along with it. There is evidence to suggest that mindfulness may be associated with better body image (Dijkstra & Barelds, 2011) and lower levels of disordered eating (Lavender, Gratz, & Tull, 2011), but few studies have examined whether mindfulness may also buffer against the negative relation between body image and disordered eating.

Participants included 558 college women ($M_{age} = 18.5$, $SD = 0.44$) surveyed at the beginning (T1) and end (T2) of their first year of college. Participants completed the 12-item version of the Eating Attitudes Test (Lavik, Clausen, & Pedersen, 1991), the Appearance Evaluation subscale of the Multidimensional Body Self-Relations Questionnaire (Brown, Cash, & Mikulka, 1990); Cash, 2000), and the Mindful Attention Awareness Scale (Brown & Ryan, 2003).

Results of a hierarchical linear regression showed that, when controlling for disordered eating attitudes, depressive symptoms, and BMI at the beginning of first year, mindfulness at T1 moderated the relation between body image (T1) and disordered eating attitudes (T2), $\beta = .07$, $R^2_{\Delta} = .005$, $p < .05$. Post-hoc probing indicated that among women with poor body image, high levels of mindfulness were associated with lower levels of disordered eating attitudes. Thus, mindfulness appears to buffer the relation between disordered eating attitudes and poor body image. Future interventions targeting poor body image among college women might be improved by including mindfulness components.

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Friday
April 01, 2016
6:00 PM-7:00 PM

C001

6:00 PM-7:00 PM

DIFFERENCES IN INFORMATION NEEDS BETWEEN WHITE AND NON-WHITE: A NATIONWIDE LONGITUDINAL STUDY OF CANCER PATIENTS

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Background: Before treatment, cancer patients need information about side effects and prognosis, while after treatment, they need information to transition to survivorship. Research documenting these needs is limited, especially among racial and ethnic minorities. This study evaluated cancer patients' needs both before and after treatment by race. **Methods:** We compared white (n=904) to non-white (n=69) patients receiving treatment at 17 NCORP sites on their cancer-related concerns and need for information before and after cancer treatment. Concern-related items were rated on a 1-5 scale where 1-2 was coded as "no concern" and 3-5 was coded as "concern." The information need items were rated on a 1-3 scale where 1 was coded as "no information need" and 2-3 was coded as "need some information." Chi-squared analyses were used to assess group differences. **Results:** Before treatment, non-white patients reported significantly higher concerns than whites about eating right (44% vs. 25 %), and exercising (37% vs. 20 %) during the course of treatment. Non-whites, compared to whites, also had significantly greater post-treatment information needs for healthy living, stress management, and handling stigma after cancer treatment (all $p < 0.05$). A significantly higher proportion of non-whites than whites also needed more information about follow-up tests (76% vs. 58%), side effects (76% vs. 59%), frequency of follow-ups (65% vs. 46%), and what symptoms should prompt them to see their doctors (71% vs. 59%) [all $p < 0.05$]. Non-white patients were also significantly more likely to distrust information from their physicians' (50% vs. 35%) while they were significantly less likely to distrust information from their friends' (49% vs. 65%) [all $p < 0.05$]. **Conclusion:** Pre-treatment concerns and post-treatment information needs differed by race, with non-white patients reporting greater information needs and concerns. In clinical practice, non-white patients may require additional attention and time to address concerns.

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C002

6:00 PM-7:00 PM

DISCUSSION OF FERTILITY PRESERVATION AMONG YOUNG LATINA BREAST CANCER PATIENTS

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Background: Fertility preservation is a priority for breast cancer patients under the age of 40. At the time of diagnosis, many patients do not receive the information they need regarding fertility. Although prior research has investigated fertility concerns among non-white Hispanic breast cancer survivors; much less is known about these concerns among Latina patients. **Method:** Data taken for this study comes from a parent study, observing 270 Latina breast cancer survivors. We conducted a cross-sectional sub-study with a sample of 70 Latina women diagnosed with breast cancer at age ≤ 40 years. We examined demographics, breast cancer treatment history, acculturation, age, marital status, and fertility concerns. In bivariate analyses, we computed Spearman and Point-biserial correlations to examine associations of study variables with fertility concerns. We then used a multivariate multiple linear regression model to evaluate which variables were independently associated with Latina breast cancer survivors' fertility concerns. **Results:** The young Latina breast cancer survivors (Mean age = 35.1 years, SD = 6.4 years) represented various countries of origin (41% Mexican, 31% US, 23% South American, 5% Caribbean). Most patients had health insurance (87%); only one quarter had a Spanish speaking physician. Most patients received hormonal therapy (64%), chemotherapy (73%) and/or radiation (65%). Nine (15%) patients reported that infertility concerns impacted decisions about chemotherapy. 42% of patients reported that fertility issues were 'not at all' discussed with a treating physician and less than half (48%) reported that fertility concerns were well addressed. After controlling for Spanish speaking doctor, receipt of chemotherapy and age in the multivariate analyses, only younger age at time of breast cancer diagnosis remained independently associated with level of discussion about fertility concerns ($p=0.003$). **Discussion:** Among many young Latina women with breast cancer, fertility concerns were not appropriately discussed; such concerns affected some of these survivors' treatment decisions. Efforts are needed to improve healthcare providers' awareness of and culturally-sensitive communication about fertility risks of cancer treatment among underserved minority breast cancer patients.

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C003

6:00 PM-7:00 PM

DO BELIEFS ABOUT COLORECTAL CANCER SCREENING DIFFER BY NATIVITY AMONG OLDER BLACK MEN?

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Background: Non-Hispanic black men have the highest colorectal cancer (CRC) incidence and CRC-related mortality, yet have significantly lower screening rates than whites. Interventions to address barriers to CRC screening may be more effective when they are culturally-tailored. However, black communities are increasingly diverse, encompassing both foreign-born (FB) and US-born (USB) blacks. We aimed to assess whether beliefs about CRC screening varied by nativity among a diverse sample of older black men. **Methods:** We analyzed baseline data from the Men's Health Initiative cohort, which included 1,182 men recruited from the community in New York City 2010-2014. Inclusion criteria included self-identified black male, age ≥ 50 years, not up-to-date on CRC screening, having high blood pressure, and a working telephone. Self-reported data included: place of birth, experiences with healthcare, and CRC screening beliefs: pros and cons of colonoscopy (CS), self-efficacy related to getting a CS, and fears associated CS. We tested associations between nativity and beliefs. **Results:** Almost one third of men were foreign-born. FB men were three times as likely to be uninsured compared to USB men (41.6% vs 14.9%, $p < 0.001$). After adjusting for access to care (insurance and having a personal doctor), FB men were more likely than USB men to feel that they could not find a place to get a CS (OR=1.79, $p < 0.001$) or find out how to get a CS (OR=2.04, $p < 0.001$). FB men were also more likely to agree that: 1) having a CS would make them feel like less of a man (OR=3.40, $p < 0.001$), 2) if a CS found a problem it would be too late to do anything about it (OR=2.37, $p < 0.001$), 3) you don't need to have a CS unless you have stomach problems (OR=1.72, $p=0.001$), and 4) you don't need to have another CS if everything is normal the first time (OR=1.97, $p < 0.001$). **Conclusion:** Nativity was associated with CRC screening beliefs among older black men. Interventions to increase screening rates among disparities populations, such as black men, should consider within-race variations in nativity and beliefs.

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C004

6:00 PM-7:00 PM

DOES THE CONSUMPTION OF FRUIT AND VEGETABLE AND PRACTICE OF PHYSICAL ACTIVITY CO-OCCUR AMONG BREAST CANCER SURVIVORS?

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Background: The consumption of fruit and vegetable (F&V) and practice of physical activity (PA) are key lifestyle behaviors that contribute to improve health and well-being among breast cancer survivors (BCS). F&V intake and PA may co-occur, suggesting that intervening on one of these behaviors would lead to a positive change in the other. However, longitudinal evidence supporting the co-occurrence between F&V intake and PA behaviors is limited. **Objective:** To examine F&V intake was associated with levels of PA among BCS during the first year post-treatment. **Methods:** A total of 199 BCS (mean [standard deviation; SD] age = 55.0 [11.0] years) reported their F&V intake and leisure-time physical activity (LTPA) using questionnaires. Moderate-to-vigorous physical activity (MVPA) was recorded for 7 days using a GT3X accelerometer. Measures were taken every three months for 5 data collections capturing the first 1.5 years post-treatment. *Between* individuals' association was estimated using multiple linear regression. Association *within* individuals over time was estimated using analysis of covariance to remove variation due to individuals. **Results:** BCS reporting high intake of F&V reported higher levels of LTPA (0.19 [0.05, 0.33]; $p = 0.01$) and MVPA (0.15 [0.01, 0.29]; $p = 0.04$). Age moderated the association between F&V intake and PA ($p \leq 0.05$). The association was stronger for younger (at the mean - 1 SD; $r = 0.27$ and 0.22 for LTPA and MVPA respectively; $p \leq 0.004$) compared to older (at the mean + 1 SD; $r = 0.00$ and 0.02 for LTPA and MVPA respectively; $p \geq 0.82$) BCS. Change in F&V intake was not associated with change in LTPA (0.08 [0.01, 0.15]; $p = 0.05$) and MVPA (0.06 [-0.01, 0.13]; $p = 0.12$). **Conclusion:** Change in one behavior may not serve as a 'gateway' for change in the other behavior. For improving F&V intake and PA among BCS, interventions should target both behaviors.

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C005

6:00 PM-7:00 PM

EXAMINATION OF CANCER STRESS, LIFE STRESS AND PERCEIVED GLOBAL STRESS ON QUALITY OF LIFE AMONG BREAST CANCER SURVIVORS

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The survivorship phase of breast cancer poses quality of life (QoL) challenges, as some side-effects may persist, and new stressors may arise (e.g., recurrence concerns). Illness-related stress has been shown to negatively impact cancer survivors' QoL, though the context of cancer-related stressors has been largely overlooked. Psychosocial interventions for cancer survivors often include a stress management component; however, it remains poorly understood how different types of stress independently and interactively impact QoL. This study compared the contributions of different types of stress on physical and emotional QoL among breast cancer survivors.

Participants were 113 Black women (mean age=51.1 years) who had completed curative breast cancer treatment 0-12 months prior to enrollment. Hierarchical regression examined the relationship between three types of stress: cancer-specific stress (Impact of Event Scale), life stress (Life Burdens Scale) and global perceived stress (Perceived Stress Scale) and physical and emotional QoL. In additional separate regressions, an interaction term (i.e., life stress x cancer-specific stress; life stress x global perceived stress) was added to explore the potential moderating effect of life stress.

The regression model for emotional QoL was significant, $F(4,92)=30.42$, $p < .001$ and accounted for 56.1% of the total variance. Each of the stress measures had a significant negative relationship with emotional QoL ($p < .05$). When the regression was re-run with the interaction terms, only the life stress x global perceived stress interaction term was significant ($p < .05$), with perceived stress more strongly associated with poorer emotional QoL under higher stress.

The model for physical QoL was significant, $F(4,92)=12.06$, $p < .001$, and accounted for 33% of the total variance. Of the individual stress measures, cancer-specific stress and life stress negatively predicted physical QoL ($p < .05$). Neither of the interaction terms were significant. Higher life stress was associated with lower QoL and moderated the influence of global perceived stress on emotional QoL. Because contextual life stress of breast cancer survivors may impact ability to engage in stress management interventions, dissemination strategies should account for these barriers.

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C006

6:00 PM-7:00 PM

EXPLORING COLON CANCER SCREENING BELIEFS FOR AUDIENCE SEGMENTS IDENTIFIED BY THEIR HEALTH INFORMATION-SEEKING STYLES

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BACKGROUND: Audience segmentation approaches are useful for developing tailored communications that address psychobehavioral factors that are more meaningful and influential than using basic sociodemographics for targeted communications. Health information-seeking (HIS) styles have been previously measured and used to describe four distinct groups (Independent Actives and Passives; Doctor-Dependent Actives and Passives) that differ in their health attitudes and practices. This study extends prior research using the Maibach 10-item measure to explore differences in colorectal cancer screening attitudes and behaviors by HIS styles. **METHOD:** Preliminary baseline data from an ongoing study were used for this secondary data analysis. Individuals (N=269) who were non-adherent to colorectal cancer screening guidelines were recruited from volunteer participant registries (35% had ever been screened). ANOVAs with Tukey post-hoc tests compared continuous measures and chi-square analysis compared categorical variables by HIS group. **RESULTS:** Independent Passives were less likely ($p < .05$) to have a regular physician and reported lower perceived risk for CRC, higher defenses about CRCs, fewer benefits of CRCs, less self-efficacy for CRCs, less CRCs readiness across multiple items, and perceived CRCs as less important. Doctor-Dependent Actives perceived greater social influence for getting screened than Doctor-Dependent Passives. Independents had more friends with a cancer history. No differences were found for sociodemographics, prior screening, family history of cancer, and general health behaviors (i.e., smoking, exercise). **CONCLUSIONS:** Maibach's 10-item measure of HIS styles is a promising strategy for audience segmentation that extends to colorectal cancer screening attitudes, but no differences were found for prior screening behavior in this preliminary analysis. Additionally, the small convenience sample may have limited the differences in sociodemographics and general health behaviors observed by HIS group in previous studies. Future analyses are planned with a larger sample and prospectively measured behaviors.

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C007

6:00 PM-7:00 PM

FAMILY FUNCTIONING, DEPRESSION, AND PSYCHOSOCIAL SERVICES USE AMONG LATINA AND NON-LATINA WHITE BREAST CANCER SURVIVORS

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Background This study examined the influence of poor family functioning in psychosocial service use (i.e. social work, psychiatric, psychological, and spiritual/pastoral services) and depression among Latina and Non-Latina White breast cancer survivors. **Methods** A mailed questionnaire package was sent to breast cancer survivors (age 21 or older) who had received treatment in an NCI-designated comprehensive cancer center in the U.S. about psychological symptoms, family functioning, and psychosocial service use. Descriptive statistics and logistic regression models were used to explore family functioning differences in need and use of psychosocial services and depression. **Results** A total of 96 Latinas and 168 Non-Latina Whites participated. In analyses adjusting for demographic characteristics (ethnicity, age, education, marital status) a positive screen for poor family functioning predicted a positive screen for depression (OR = 3.731, CI = 1.59-8.78), higher likelihood of contact with a psychosocial service professional after the cancer diagnosis (OR = 1.952, CI = 1.06-3.59), higher current interest in counseling (OR = 2.287, CI = 1.18-4.43), and more receipt of services after the cancer diagnosis and during the survivorship phase (OR = 2.608, CI = 1.19-5.71). **Discussion** Our findings revealed that Latina and Non-Latina White cancer survivors with poor family functioning are in need and are more likely to use psychosocial services. Survivors living in an unstable or dysfunctional family environment are in higher need of psychosocial services. The results gathered from this study can help inform psychosocial services and interventions, such as family therapy, to address psychological adjustment among breast cancer survivors and their families.

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C008

6:00 PM–7:00 PM

FEASIBILITY OF SENDING SUN-SAFETY TEXT MESSAGES TO YOUTH.

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Background: Mobile health aims to prompt changes in “real time” for behaviors or environmental exposures that can reduce health risks or optimize health outcomes. Southern Arizona has over 265 sunny days per year and overexposure to ultraviolet radiation (UVR) is known to cause skin cancer. Youth are a high-risk group for UVR overexposure; they also are high users of mobile phones and text messaging. Text messages (TM) offer a medium for communicating sun safety information to youth. **Aim:** To assess the feasibility of using TM to provide middle school students with multiple sun safety messages. **Methods:** We recruited 7th graders from 3 middle schools in Tucson, AZ to receive sun-safety TM over 12 weeks during May–July 2015. Students received 3–4 TM per week at predetermined times. TM consisted of evidence-based, 160-character sun-safety messages framed by the health belief model and tested and validated in a previous study. We used Platform for Research integrated Messaging (PRiM) software to manage TM and retrieve data. Students rated satisfaction with the TM on 5 Likert-type items (1 = strongly disagree to 5 = strongly agree) and offered suggestions for future TM studies. We noted problems that occurred with the TM process. **Results:** 78 students received a total of 36 messages. They agreed that they learned new information about sun safety ($M = 4.25$), trusted the TM information, ($M = 4.60$), received the right amount of TM ($M = 4.40$), thought the TM content was helpful ($M = 4.35$), and liked getting sun-safety information by TM ($M = 4.52$). They suggested sending fewer (6%) or more (22%) TM each week and more TM on weekends (23%). An issue encountered with PRiM included insertion of spaces into TM, causing premature truncation of messages. **Conclusion:** Well-designed TM are acceptable to youth. Using a dedicated software platform is feasible for sending sun-safety TM to youth; however, each message should be tested on the platform prior to sending to check for system-induced errors.

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C009

6:00 PM–7:00 PM

GAUGING INTEREST IN ELECTRONIC HEALTH INFORMATION USE TO SUPPORT SELF-MANAGEMENT IN OLDER ADULTS WITH/WITHOUT CANCER HISTORY

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Introduction: There are 40 million Americans >65 years, including 14.5 million cancer survivors. Meeting the growing needs of an aging population presents major healthcare challenges. Understanding ways to support patients in health self-management by exchanging electronic health information (EHI) with providers is key to addressing needs of older Americans. The purpose of our study was to: 1) assess importance of EHI access to older adults and survivors by age and 2) compare preferences for types of EHI exchange with providers in both groups. **Methods:** We used survey data from Health Information National Trends 4, collected 2011–2014, with responses from 6,839 adults (including 1,552 cancer survivors) 55–96 years. Multivariable regression was used to assess importance of EHI access and to describe interest in 9 EHI exchange options with providers, including reminders, test results and lifestyle advice. **Results:** Most (63%) said EHI access was “very important” to them; there was a linear decline in EHI importance across age groups. Adults 55–64 years (71%) said EHI access was very important, in contrast to 63% of adults 65–74 years and 49% of adults >75 years. Older adults without prior e-mail/internet experience were less likely to describe EHI access as important; This was a stronger negative predictor for survivors ($B = -1.14$, $p < .001$) than other adults ($B = 0.62$, $p < 0.001$). Of the 9 EHI exchange options, app/medical reminders were preferred by most adults (65%) but results were mixed for EHI use for clinical tests/advice. Survivors were less interested than others in EHI for lab results ($B = -.033$, $p < 0.03$). Adults >75 years were consistently less interested in all EHI exchange options. **Conclusions:** We observed evidence of a “digital divide” relative to importance of EHI access and interest in EHI exchange. Engaging adults >65 years to improve comfort/experience with technologies may support EHI use to promote health self-management. Survivors may have distinct EHI needs/preferences from older adults without a cancer history.

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C010

6:00 PM–7:00 PM

GENDER DIFFERENCES AND SOCIOECONOMIC DISPARITIES OF DEPRESSION AND IL-2 WITH REGARD TO SURVIVAL IN HEPATOCELLULAR CARCINOMA

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Objective: Increased risk of mortality has been observed in cancer patients with depression, as well as those who are male, racial minorities, and/or have low socioeconomic status (SES). The objective of this study is to examine the role of these factors with regard to potential underlying biological mechanisms associated with survival in patients diagnosed with hepatocellular carcinoma (HCC). **Methods:** A total of 266 HCC patients were administered a battery of questionnaires including a sociodemographic questionnaire and the Center for Epidemiologic Studies Depression (CES-D) scale. Blood samples were collected to assess serum levels of IL-1 α , IL-1 β , IL-2, IL-6, IL-10, TNF- α and IFN- γ using LuminexTM beadset. Disease specific factors including cirrhosis, tumor size, number of lesions, and vascular invasion were collected from patients' medical record. Descriptive statistics, Mann-Whitney U, Kruskal-Wallis tests, and linear regression were performed for analyses. **Results:** Of the 266 patients, 18.9% participants reported clinically significant depressive symptoms. Females had higher CES-D score than males ($p = .014$). Being unemployed/disabled ($p = .001$), having gross household income of less than \$10,000 ($p = .022$) and having income that does not meet basic needs ($p = .028$) were found to be associated with higher CES-D score in males, but not in females. Serum levels of IL-1 α ($p = .020$), IL-1 β ($p = .008$), IL-2 ($p = .001$) and IL-10 ($p = .04$) were found to be negatively associated with education level. Gender ($p = .035$), income ($p = .004$), whether the patient's income meet their basic needs ($p = .035$) and IL-1 β ($p = .045$) independently predicted CES-D score, and together explained 19.4% of variance associated with depression. Although neither depression nor SES factors were related to survival, IL-2 significantly predicted survival ($p = .001$) after adjusting for significant disease specific factors. **Conclusions:** The associations between gender, SES factors, and depression confirmed the urgency for development of gender-targeted interventions for HCC patients who have low SES and may suffer from depression. The relationship between education, IL-2 and survival provided insights to how SES may have an impact on underlying biological mechanism associated to survival.

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C011

6:00 PM–7:00 PM

HEALTHY LIFESTYLE BEHAVIOR INTERVENTION FOR COLORECTAL CANCER SURVIVORS AND THEIR FAMILIES: PILOT STUDY

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Approximately one in five adults will develop colon or rectal cancers (CRC) in their lifetimes. Behavioral lifestyle factors, such as physical activity (PA) and diet are often shared among family members and are among the strongest risk factors for CRC. As such, developing an effective healthy lifestyle behavior intervention for at-risk populations, such as CRC survivors and their family members, would make a considerable step for cancer prevention.

A pilot study testing the feasibility and acceptability of a self-determination theory-driven intervention to improve diet and PA was conducted with five dyads of CRC survivors and their adult family members. The intervention consisted of 8 weekly 30-minute sessions delivered via Skype. A website was also available to participants with additional materials to inform participants' PA and dietary choices.

Feasibility was established by successful enrollment during the target period, 80% retention by 6 months post-baseline assessment, and 94% receiving full intervention dosage. Acceptability was also documented by >80% satisfaction with the intervention. Furthermore, participants showed significant decreases from pre-intervention to post-intervention in both systolic blood pressure ($M_{pre} = 112.63$ mmHg, $M_{post} = 108.94$ mmHg) and diastolic blood pressure ($M_{pre} = 74.0$ mmHg, $M_{post} = 70.06$ mmHg), representing small to moderate effects (Cohen's $d = 0.26$ and 0.56 , respectively). Participants also increased the number of days per week that they reported eating at least five servings of fruit and vegetables ($M_{pre} = 3.29$ days, $M_{post} = 4.29$ days), representing a moderate effect (Cohen's $d = 0.48$). Preliminary results suggest that this brief, internet-based intervention is feasible, acceptable to CRC survivors and their family members, and effective in improving both cardiovascular health and dietary habits. These findings support further study using larger-scale randomized controlled designs to test the efficacy of this intervention for cancer survivors and their family members.

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C012

6:00 PM-7:00 PM

HIGH PRE-SURGICAL SLEEP IMPAIRMENT PREDICTS SLOWER IMPROVEMENT IN SURGICAL SITE HEALING AMONG WOMEN WITH ENDOMETRIAL CANCER

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Introduction: Endometrial cancer (EC) is the most common gynecologic malignancy and the fourth most common cancer affecting women in the US. Wound healing complications, present in up to 34% of women undergoing gynecologic cancer surgery, have been associated with increased healthcare costs, more specialized care, longer hospitalization, and poorer quality of life. The effects of psychosocial stress on wound healing have been increasingly evaluated; however, fewer studies have evaluated the potential role of sleep impairment. The purpose of the present study is to expand upon findings from health and general surgery populations to assess the impact of sleep impairment on surgical site healing across time among women with EC. **Methods:** 113 women ($M=61.30$ years, $SD=9.09$ years) completed the PSQI at their preoperative visit. Body Mass Index (BMI) and surgical site complications (SSC) were abstracted retrospectively from participant medical records. **Results:** This study found that 35% of participants experienced a SSC. Mixed linear modeling was used to predict SSC scores with time since surgery (days), BMI, and pre-surgical sleep impairment. Results revealed significant linear decreases in SSC scores across the follow-up period ($B = -0.039$, $SE = 0.016$, $t = -2.363$, $p < 0.05$). Higher pre-surgical BMI was not significantly associated with higher overall SSC scores ($B = 0.057$, $SE = 0.032$, $t = 1.772$, $p = 0.09$). Consistent with hypotheses, higher pre-surgical sleep impairment was significantly associated with slower recovery of SSCs ($B = 0.004$, $SE = 0.002$, $t = 2.074$, $p < 0.05$). **Discussion:** Although preliminary, this study provides evidence of the role of pre-operative sleep impairment on SSC across time in a gynecology oncology population. Notably, participants with the highest levels of sleep impairment recover from surgery more slowly. Given the importance of endocrine and immune function in wound healing, further research into psychoneuroimmunologic correlates would provide a more comprehensive picture of a complex process.

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C013

6:00 PM-7:00 PM

HOW DO SOCIAL CONSTRAINTS WORK AMONG CANCER SURVIVORS?

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Objective: Previous research showed social constraints would lead to psychological distress in cancer patients but little research was conducted to examine the mechanism underlying this relation. On the basis of the social-cognitive processing model, a few studies found cognitive processes and emotional processes may be important mediating variables. However, no existing studies have considered trait emotional process such as ambivalence over emotional expression as a mechanism underlying the association between social constraints and psychological distress, and little effort has been contributed to examine the interplay between cognitive and emotional processes under the influence of social constraints. The present study examined the association between social constraints and psychological distress, and the roles of ambivalence over emotional expression, avoidance and intrusive thoughts in this relation. **Method:** Ninety-six Chinese breast cancer survivors aged between 37 and 77 ($M = 54.54$, $SD = 7.91$) were recruited from Chinese community organizations in Southern California. Interested and eligible individuals were invited to complete a questionnaire package assessing their levels of social constraints, ambivalence over emotional expression, avoidance, intrusive thoughts, depression and posttraumatic stress symptoms. **Result:** The data fits well to the proposed model, $\chi^2(6) = 7.71$, $p = .26$, CFI = .99, NNFI = .98, RMSEA = .06. Results revealed a positive relationship between social constraints and psychological distress (depression and posttraumatic stress symptoms). Such relationship was mediated by ambivalence over emotional expression, avoidance and intrusive thoughts. In addition, the association between social constraints and intrusive thoughts was mediated by ambivalence over emotional expression and avoidance; the association between ambivalence over emotional and psychological distress and the association between avoidance and psychological distress were mediated by intrusive thoughts. **Discussion:** Extending beyond previous research findings, we found social constraints associated with higher levels of psychological distress, and such association was mediated by trait cognitive and emotional processing. Theoretical and practical implication on the development of interventions targeting at maladaptive cognitive and emotionally processes among socially constrained breast cancer survivors will be discussed.

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C014

6:00 PM-7:00 PM

HOW DOES DOCTOR COMMUNICATION INFLUENCE BLACK MEN'S PROSTATE SCREENING DECISIONS?

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Background: Decisional conflict is the state of uncertainty about the course of action to take. The decision to get screened for prostate cancer is often less certain than other medical decisions. We assessed correlates of decisional conflict around prostate cancer screening among black men, the group most adversely affected by prostate cancer. **Methods:** 86 black men recruited from the community completed the Decisional Conflict Scale. Scores for each of 10 items were averaged to obtain a decisional conflict score, with higher scores indicating more decisional conflict. Men also reported past experiences with prostate cancer screening, communication with physicians, and prostate cancer knowledge. **Results:** Mean age was 58 years and the majority had at least some college education (72.0%). Most participants completed prostate cancer screening in the past year (57.4%) and had discussed the benefits of screening with their doctors (67.4%). However, less than half (44.2%) had discussed the risks of screening with their doctors, and even fewer had doctors who informed them that experts disagree about whether men should have a PSA test (26.7%). Decisional conflict was negatively associated with having a previous PSA test, and a doctor who: 1) talked about the benefits of screening 2) talked about the risks of screening, and 3) informed them that experts disagree on the need for PSA testing (**p Conclusions:** While few participants discussed risks or the lack of consensus about screening with their doctors, we found that discussing the risks, benefits and disagreement about testing were significantly associated with lower decisional conflict compared to those who had not had such conversations with doctors. These results suggest that, to facilitate better decisions about this controversial topic among black men, doctors should consider more open discussion about prostate cancer screening, and that they include the risks, benefits, and controversies in their conversations with patients.

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C015

6:00 PM-7:00 PM

HPV INFECTION AMONG SEXUAL MINORITY WOMEN IN THE UNITED STATES

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Background. Sexual minority women are at risk for infection with human papillomavirus (HPV), yet little is known about the prevalence of HPV infection among this population. In examining the prevalence of HPV infection, it is important to examine multiple dimensions of sexual orientation since health outcomes may differ across dimensions. **Methods.** - We analyzed data from the 2003-2012 National Health and Nutrition Examination Survey (NHANES) among women ages 20-59 ($n=7,132$). We examined two dimensions of sexual orientation (sexual identity and sexual behavior) and used weighted logistic regression to determine how HPV infection outcomes (any HPV type, high-risk HPV type, and vaccine HPV type) vary by dimension. **Results.** Similar patterns emerged for sexual identity and sexual behavior. In bivariate analyses, HPV infection outcomes were more common among non-heterosexual women compared to heterosexual women (any type: 49.7% vs. 41.1%; high-risk type: 37.0% vs. 27.9%), as well as among women who reported any same-sex partners compared to women who reported only opposite-sex partners (any type: 55.9% vs. 41.0%; high-risk type: 37.7% vs. 28.2%; vaccine type: 19.1% vs. 14.0%) ($p < 0.05$). When we disaggregated measures of sexual orientation into subgroups, bisexual women and women who reported partners of both sexes had greater odds of HPV infection outcomes ($p < 0.05$ in bivariate analyses). Multivariate models attenuated several of these differences, though lesbian women and women who reported only same-sex partners had lower odds of most HPV infection outcomes in multivariate analyses ($p < 0.05$). **Conclusions.** HPV infection is common among sexual minority women. Prevalence estimates vary slightly between sexual orientation dimensions and greatly depending on how a dimension is operationally defined. Our results can help inform targeted HPV and cervical cancer prevention efforts for sexual minority women.

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C016

6:00 PM-7:00 PM

IMPACT OF LATIN DANCE AND TAI CHI ON PHYSICAL ACTIVITY AND BODY COMPOSITION IN BREAST CANCER SURVIVORS

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Breast cancer survivors are at high risk of weight gain during treatment and recovery. Increased physical activity and movement may help prevent weight gain; however, little is known about the type, intensity, or amount of movement needed to prevent weight gain in this population. Traditional physical activity promotion programs have focused on exercise, which may be perceived as not fun or too stressful among survivors, reducing adherence and health benefits. This pilot study investigated the impact of two non-traditional forms of exercise, Latin dance and tai chi, on physical activity and body composition in breast cancer survivors in Phoenix, Arizona. Participants ($N=13$; M age=51.5 years, 38% Latina, M BMI=29.91 kg/m²) completed a seven day pedometer protocol and measures of body mass index, body fat, and waist circumference at pre- and post-intervention. Participants were randomized to a Latin dance ($N=7$) or tai chi ($N=6$) class and were asked to attend a one-hour class twice a week for eight weeks. Paired t-tests determined that there were no significant changes in body mass index ($T1$ $M=29.5\pm2.2$; $T2$ $M=29.5\pm2.1$) or waist circumference ($T1$ $M=99.9\pm7.42$; $T2$ $M=101.7\pm8.32$) in women from both groups ($ps>.05$). However, women in the Latin dance ($T1$ $M=41.2\pm4.1$; $T2$ $M=35.6\pm7.9$; $t(6)=-2.86$, $p=.03$) and tai chi group ($T1$ $M=40.1\pm3.45$; $T2$ $M=36.33\pm6.12$; $t(5)=1.95$, $p=.01$) experienced significant decreases in body fat. Activity levels increased in both groups as participants had more steps per day at post-intervention ($T1$ $M=6,594$; $T2$ $M=6,702$); however, this was not significant. Latin dance and tai chi are engaging, culturally relevant forms of exercise that emphasize leisure and fun. These results suggest that these activities are appropriate and can lead to overall increases in physical activity, help prevent weight gain and decrease body fat in this population. Research and practice should consider non-traditional forms of physical activity to accompany recovery and treatment in breast cancer survivors.

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C017

6:00 PM-7:00 PM

INFORMATION AVOIDANCE MODERATES THE EFFECT OF UV PHOTOGRAPHY ON SUN PROTECTION COGNITIONS AMONG YOUNG ADULTS

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Skin cancer is one of the most common cancers impacting young adults (Skin Cancer Foundation, 2015) and rates have spiked over the past 30 years (Reed, 2012). Ultraviolet (UV) photography interventions are effective in enhancing sun protection cognitions and behavior by providing images of underlying facial skin damage (Mahler, 2015). However, Dwyer and colleagues (2015) found that when given the choice 33% of young adults opted not to see their UV photograph. Thus, the desire to avoid available health information may impede protection behaviors, screening efforts, and identification of skin cancer risk.

Learning about personal skin damage may be threatening and prompt negative emotions (Sweeny et al., 2010). Yet, it is uncertain what the consequences are for individuals who receive unwanted health information. The current research was designed to determine if learning about undesired health information (via UV photography) impairs or improves subsequent sun protection cognitions.

A two-part study was employed among 167 undergraduates aged 18-25 ($M_{age}=19.28$; 121 females). At T1, participants completed baseline and demographic measures. In addition, desire to avoid personal feedback about skin damage was measured using an avoidance scale. At T2, participants were randomly assigned to see either their UV photo or a plain black and white photo. Afterwards, sun protection cognitions were assessed.

Multiple regressions, all controlling for past sun protection/risk behavior, gender, and skin damage proneness, examined the main effects of avoidance, UV photo condition, and their interaction on: sun protection intentions, tanning attitudes, ratings of tanner prototypes, worry about skin cancer, and skin damage risk perceptions. Reporting higher (vs. lower) avoidance was associated with lower sun protection intentions ($\beta=-.271$, $p<.001$), more favorable tanning attitudes ($\beta=.26$, $p=.02$) and ratings of the typical person with tanned skin ($\beta=.21$, $p=.02$). Finally, significant photo condition by avoidance level interactions revealed that participants higher in avoidance who saw their UV photo reported less worry about skin cancer ($\beta=-.17$, $p<.05$) and lower perceived risk for skin damage ($\beta=-7.25$, $p<.01$). Findings suggest the need to tailor personalized health information in a non-threatening way for individuals who prefer to avoid the information.

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C018

6:00 PM-7:00 PM

INTERNET CANCER SUPPORT GROUPS: LONGITUDINAL ASSOCIATIONS WITH DEPRESSIVE SYMPTOMS

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Objective: Internet support groups (ISGs) can provide emotional and informational support beneficial for mental health, particularly for cancer survivors with limited social support offline. This study examined (1) factors related to engagement with cancer ISGs and (2) how engagement with ISGs was associated with changes in depressive symptoms. **Methods:** Data came from an online survey of members of the American Cancer Society's Cancer Survivors Network (CSN). The present analyses focused on self-report measures of engagement with ISGs ("How frequently do you visit CSN?") and depressive symptoms the preceding week, with longitudinal analyses restricted to 1,328 survivors who completed all relevant measures at Time 1 and Time 2, approximately 3 months apart. **Results:** Participants were primarily female (69%), married (67%), middle aged ($M=57.5$ years), and diagnosed with nonmetastatic cancer (81%) an average of 4.7 years prior. Survivors reported a variety of cancer diagnoses, with breast (25%) and colorectal (8%) the most common. At Time 2, 38% of respondents reported visiting CSN never or only once. Survivors who visited CSN more than once were more recently diagnosed, more likely to have had a recent recurrence or progression, and reported more anxiety and less social support offline (all p 's $<.05$). Relative to visiting CSN never or only once, visiting CSN repeatedly was significantly related to reductions in self-reported depressive symptoms from Time 1 to Time 2, even after adjusting for other factors related to change in depression (age, income, cancer progression, anxiety, and offline social support; $\beta=-0.04$, $p=.04$). This association was stronger for survivors with less access to offline social support. **Conclusion:** Repeated engagement with cancer ISGs was related to reductions in depressive symptoms in cancer survivors, particularly among individuals who lacked offline social support. Although correlational, results are consistent with the hypothesis that ISG participation reduces depression.

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C019

6:00 PM-7:00 PM

INTRUSIVE THOUGHTS AND FEELINGS IN LATINA CANCER PATIENTS

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Background: Cancer diagnosis and treatment may be a traumatic experience that leads to intrusions (i.e., repeated unwanted thoughts and feelings). Spanish-speaking Latina cancer patients' acculturation and spiritual well-being may impact the extent to which they experience intrusive thoughts and feelings, yet little is known about experiences of intrusion in these patients. **Method:** Spanish-speaking Latina cancer patients scheduled to receive chemotherapy and enrolled in a stress management intervention study completed measures prior to starting chemotherapy or receiving their randomized intervention. Measures included the Intrusion subscale of the Impact of Event Scale – Revised (keyed to "your cancer and cancer diagnosis"), the Spiritual Well-Being Scale (SWBS) of the Functional Assessment of Chronic Illness Therapy, and the Short Acculturation Scale for Hispanics. **Results:** Participants were 176 patients [mean age: 52 (range: 28-87); mean years lived in U.S.: 26 (range: 0-64)]. Though the mean intrusion score was relatively low (1.25 on a scale of 0-4), 24% of patients had mean scores of 2 or greater, indicating they were experiencing at least moderate distress due to intrusions. Intrusion scores were not related to years lived in the U.S. or acculturation ($ps\geq.39$) but were negatively related to spiritual well-being ($p<.01$). This relationship was driven by a negative correlation between intrusions and the Meaning/Peace SWBS subscale ($p<.01$); intrusions were not related to the Faith subscale ($p=.16$). **Conclusion:** The present findings indicate that intrusive thoughts and feelings are a common problem among Spanish-speaking Latina cancer patients and are associated with less ability to find meaning and peace. Contrary to expectations, acculturation was not related to intrusion scores. These findings suggest that high levels of spiritual well-being, particularly the meaning/peace aspect, may be a protective factor with respect to cancer-related intrusions in Spanish-speaking Latina cancer patients.

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CITATION AWARD WINNER C020

6:00 PM-7:00 PM

LIVING WELL: DEVELOPMENT AND PRELIMINARY TESTING OF A WEB-BASED QUALITY OF LIFE INTERVENTION FOR OVARIAN CANCER SURVIVORS

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Background: High levels of distress, anxiety, and sleep disturbance are common among ovarian cancer patients throughout the first years of survivorship. While there have been a number of interventions developed for cancer survivors, interventions that address the multiple and critical psychosocial needs of ovarian cancer survivors are limited. The purpose of the present study was to develop and assess the feasibility of a web-based quality of life intervention for rural ovarian cancer survivors. **Methods:** Ten ovarian cancer survivors participated in a 10-week group e-health intervention led by two psychologists. The group met weekly for 2 hours via a video web-based conferencing platform. Structured interviews and weekly evaluations were used to receive feedback on the website and intervention content. Before and after the intervention, measures of depression, sleep, social support, and psychological well-being were administered. Paired t-tests were used to examine changes in psychosocial measures over time. **Results:** Emerging qualitative themes included feedback that participants enjoyed the opportunity to meet other ovarian cancer survivors and the convenience of participating at home. The most common difficulties reported were time constraints and dealing with technical issues (e.g., X, Y). A paired t-test indicated a decrease in depressive symptoms from baseline (13.60) to follow-up (7.49; $p = .046$). Other measures were not significant but results trended in the direction of less distress and greater psychological well-being. **Conclusions:** Results suggest a web-based intervention is accessible and feasible with ovarian cancer survivors in rural areas. Preliminary outcome data suggests the intervention reduces depressive symptoms and favorably impacts other aspects of quality of life. The intervention has potential to serve as a model for reaching rural cancer populations and addressing psychosocial factors in ovarian cancer survivors. Future studies should include randomized controlled trials with long-term follow-up.

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C021

6:00 PM-7:00 PM

LUNG CANCER SCREENING PARTICIPATION: DO INDIVIDUAL HEALTH BELIEFS MATTER?

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Aims: Lung cancer (LC) kills more people worldwide than any other cancer. Most die because they are diagnosed advanced with a 1% 5-year relative survival rate. Until recently, an effective screening test did not exist. Lung cancer screening (LCS) with low-dose computed tomography is a recent USPSTF recommendation for high-risk smokers. New screening programs are being implemented, but factors that influence LCS participation in this population are unknown. Health beliefs have predicted cancer screening participation in other types of cancer, and may be predictive of LCS. The purpose of this study was to examine the relationships between health beliefs (perceived risk, perceived benefits, perceived barriers, & self-efficacy) & LCS participation. **Methods:** Descriptive, cross-sectional design using survey methods ($N=497$). Convenience sample of LCS-eligible smokers. Data collected online measuring sociodemographic variables & LCS health beliefs. **Results:** We tested for associations between perceived risk, perceived benefits, perceived barriers, & self-efficacy and LCS participation (dichotomized as unscreened & intent to/screened, $n=351$ & 146, respectively). Using logistic regression models with LCS participation as the outcome variable, we found perceived benefits ($p=.001$; OR=1.06, 95%CI (1.02, 1.09) were statistically significant, while perceived barriers was moderately significant ($p=.054$; OR=0.98, 95% CI (0.96, 1.00). Multivariable logistic regression was conducted in order to see if variables were still significant after adjusting for the other scales. Perceived benefits ($p<.001$) and self-efficacy ($p=.019$) maintained statistical significance with similar odds ratios, and barriers remained borderline significant ($p=.081$). **Conclusions:** Health beliefs have predicted screening behavior in other cancers & results from this study indicate perceived benefits, perceived barriers, & self-efficacy may be important variables associated with LCS participation. Future research is needed to explore the relationships more fully.

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C022

6:00 PM-7:00 PM

MASCULINE NORMS ABOUT EMOTIONALITY AND SOCIAL CONSTRAINTS IN YOUNG AND OLDER ADULT MEN WITH CANCER

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Adherence to beliefs about how men should limit their display and engagement with emotions, or restrictive emotionality, might contribute to increased psychological distress after cancer. Its impact may be particularly sensitive to constraints from one's interpersonal environment (social constraints) and might affect men differently across the lifespan. Two studies examined the relationship of restrictive emotionality and social constraints on depressive symptoms in two disparate samples of men with cancer. In Study 1, 171 young adult (aged 18-29) testicular cancer survivors completed measures of restrictive emotionality, social constraints, and depressive symptoms (CES-D; $M=13.13$, $SD=12.19$). Significant, positive associations were observed for restrictive emotionality ($r=.19$, $p<.05$) and social constraints ($r=.57$, $p<.001$) with depressive symptoms. Social constraints moderated the relationship, such that high restrictive emotionality was associated with greater depressive symptoms in those in high ($B=.15$, $p<.001$) socially constrained environments. In Study 2, 66 older adult ($M=65.76$, $SD=9.0$) prostate cancer survivors completed identical measures. Depressive symptomatology was significantly lower in older adults ($M=8.85$, $SD=8.08$), and were positively associated with social constraints ($r=.47$, $p<.01$), but not restrictive emotionality. Social constraints moderated the relationship with depressive symptoms in a different (and opposite) pattern than evidenced in young adults. Here, low restrictive emotionality was associated with greater depressive symptoms in those with relatively higher social constraints ($B=-.12$, $p<.05$). Findings highlight the differing relationships between restrictive emotionality and social constraints on depressive symptoms in young and older adult men with cancer. Development of psychosocial and health care interventions should take into account restrictive emotionality males norms and constraints from one's interpersonal environment among men with cancer.

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C023

6:00 PM-7:00 PM

MASCULINITY BELIEFS AND COLORECTAL CANCER SCREENING IN MALE VETERANS

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Men's current rates of adherence to colorectal cancer (CRC) screening guidelines fall below national screening objectives despite effective screening modalities. In qualitative studies, some men have reported that endoscopic screenings (e.g., colonoscopy) breach masculinity norms; however, the extent to which masculinity norms are associated with screening adherence is unknown. The current study tested the hypotheses that greater endorsement of masculinity norms (i.e., risk-taking, self-reliance, primacy of work, heterosexual self-presentation) would be associated with 1) a lower likelihood of adherence to CRC screening with any test and 2) a lower likelihood of adherence to CRC screening with colonoscopy specifically. Data were collected from 327 men (213 adherent with any test, 196 adherent with colonoscopy, and 114 non-adherent) aged 51-75 at average risk for CRC who were accessing primary care services at a VA. Screening adherence was assessed via self-report and medical record review. Separate hierarchical regression analyses were conducted to examine associations between four masculinity norms and screening adherence with any test and adherence with colonoscopy while controlling for demographic variables associated with CRC screening adherence in prior literature (e.g., age, race). Contrary to hypotheses, masculinity norms did not predict CRC screening adherence with any test or with colonoscopy specifically. These null findings may be related to how participants' prioritize health norms in relation to masculinity norms and VA-wide initiatives to increase CRC screening. Although results are inconsistent with masculinity theory and prior qualitative findings, further work is needed to determine whether findings generalize to other populations and settings.

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C024

6:00 PM-7:00 PM

MECHANISMS LINKING PAIN AND FATIGUE WITH FREQUENCY OF PHYSICAL ACTIVITY IN CHILDREN WITH CANCER

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Children with cancer are at increased risk for obesity and other chronic health conditions. This risk is elevated as a result of decreased physical activity (PA) in pediatric cancer survivors. Thus, it is critical to elucidate factors leading to decreased activity. Children with cancer experience physical concerns (i.e., pain and fatigue) that likely serve as barriers to PA. The present study examined associations between PA, pain and fatigue, while testing for possible mediating mechanisms (anxiety and perceived self-efficacy). Participants were 28 children with cancer ($M = 12.04$ years, $SD = 3.05$ years; 57.1% females) and caregivers (85.7% mothers; 67.9% married) who completed the Family Symptom Inventory to assess child and caregiver symptoms during a regular outpatient visit. Children reported their pain intensity, fatigue and anxiety using the PROMIS 25 Profile and the Stanford Chronic Disease Self-Efficacy scale. Caregivers reported children's frequency of PA using an on-site developed child PA questionnaire. Analyses were completed in Mplus Version 7.3 using a full information maximum likelihood estimation method to handle missing data.

Structural equation modeling using MLR estimation used to test a mediation model, examining pain, fatigue, and frequency of PA, testing children's anxiety and self-efficacy as mediators. This model showed a good fit to the data, $\chi^2 (3, N = 28) = 0.27$; $p = .97$; CFI = 1.00; RMSEA < .01; SRMSR = 0.03. Indirect effects, examined using a nonparametric bootstrapping method, revealed fatigue indirectly related to frequency of PA through its effect on anxiety $B = 0.44$, $SE = 0.24$, 95% CI [0.04, 1.20]. Pain was marginally indirectly related to activity through anxiety, $B = 0.05$, $SE = 0.05$, 90% CI [0.001, 0.19], and self-efficacy, $B = -0.12$, $SE = 0.07$, 90% CI [-0.28, -0.01], as was fatigue through self-efficacy, $B = -0.45$, $SE = 0.27$, 90% CI [-1.14, -0.05]. Data collection is ongoing.

Findings suggest that pain and fatigue influence frequency of PA in children with cancer through their effect on children's anxiety and self-efficacy as it relates to managing their illness. Clinically addressing children's anxiety and self-efficacy for managing their illness may be promising points of intervention for increasing PA in this population.

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CITATION AWARD WINNER
C025

6:00 PM-7:00 PM

MEDIATORS IN THE PERSONALITY-ADJUSTMENT LINK AMONG CHINESE CANCER SURVIVORS

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New cancer cases in China increase by more than 2 million each year and cancer has become the leading cause of death among urban and rural residents (Wang, Wei, Liu, Li, & Wang, 2012). However, the extant cancer survivorship literature among Chinese cancer survivors is limited. The current study aimed to expand this literature by examining a path model to determine factors that predict and underlie Chinese cancer survivors' fear of cancer recurrence (FCR) and physical well-being. Lent's (2007) restorative well-being model described that personality factors can affect coping appraisal strategies, which predict adjustment (e.g., affect, role functioning), in turn influencing adjustment outcomes. Based on his framework, this study hypothesized positive reappraisal and hopelessness as mediators between conscientiousness and FCR and physical well-being. Furthermore, based on Lent's model and the hopelessness theory of depression (Abramson, Metalsky & Alloy, 1989), it was predicted that conscientiousness would first be associated with positive reappraisal, which in turn would predict decreased hopelessness. Low levels of hopelessness would then be associated with decreased FCR and improved physical well-being. Data were collected from 238 Chinese cancer survivors from cancer associations in China. The hypothesized model was tested using path analysis in Mplus Version 6.1 program (Muthén & Muthén, 2010). The results indicated that conscientiousness predicted physical well-being. Hopelessness but not positive reappraisal was a mediator between conscientiousness and FCR and physical well-being. Also, the results supported the hypothesis that conscientiousness would first predict positive reappraisal, which then predicted decreased hopelessness, in turn leading to decreased FCR and improved physical well-being. Detailed findings and research/clinical implications will be presented.

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C026

6:00 PM-7:00 PM

MEETING THE NEEDS OF PATIENTS WITH CANCER WHO ARE PARENTING YOUNG CHILDREN: A QUALITATIVE STUDY

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Background: More than 20% of all cancer diagnoses occur between the ages of 20 and 55. This age-period often involves parenting and, as a consequence, more than 18% of all cancer patients are parenting a child under the age of 18 at the time of diagnosis. To identify family-based intervention opportunities targeted to this understudied population we conducted formative research investigating the facilitators and barriers of successful engagement in treatment among oncology patients parenting children ≤ 18 years of age. **Methods:** Qualitative interviews and quantitative surveys were conducted with both cancer patients and their spouses. **Results:** Qualitative interviews were conducted with 9 participants (5 patients, 4 spouses). Themes identified: (1) Needs vary by age of child: telling the child(ren) about the cancer and involving them in care varies based on age; (2) Family needs change over the course of cancer treatment. Participants spoke of different periods of cancer treatment: acute illness, hospitalization, surgery, recovery, in-patient and/or out-patient chemotherapy, radiation, survivorship. Each stage may require shifts in patient and family schedules; (3) Childcare, especially for very young children, can be a significant challenge, particularly if the child(ren) are present during treatment and medical appointments; (4) Support systems are essential for many families during cancer treatment; these can include: extended family members, faith communities, work colleagues and neighbors; and (5) Continuing to work during cancer treatment can be a challenge for both patients and spouses; finances are often affected. **Conclusions:** Key components of family support during a parent's cancer treatments include: (1) age-appropriate support to help children understand cancer and parent's treatment; (2) flexibility and continued assessment of how shifting treatments impact family schedules; (3) childcare, especially for pre-school age children; (4) linking families to existing support systems including community-based services and cancer-center based services.

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C027

6:00 PM-7:00 PM

MATERNAL CHILD-FEEDING PRACTICES: RELATIONSHIP WITH THE BMI AND PERCENTAGE BODY FAT OF MEXICAN CHILDREN

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Objectives: 1) To assess the reliability of the Child Feeding Questionnaire (CFQ), 2) To describe maternal child-feeding practices (MCFP) and 3) To associate the MCFP with the child's body mass index (BMI) and body fat percentage (BFP). **Methods:** Descriptive correlational study. This study included 786 mothers and pre-school children that lived in Mexico's Northeastern. To describe the MCFP, the mothers answered the CFQ with 31 questions distributed among seven factors. The weight and height of mothers and children were measured, as well as the child's BFP. Descriptive statistics and Pearson's correlation coefficient were applied. **Results:** The Cronbach's alpha for the CFQ was 0.75. Overweight/obesity was found in 36.01% of the children. The mean's BFP was 25.90 ($SD = 9.92$) for boys and 27.20 ($SD = 8.79$) for girls. Concerning the MCFP, the maternal perceived responsiveness obtained the highest score ($Mean = 84.35$, $SD = 16.99$), while the lowest scores were for maternal perception of child's weight ($Mean = 50.06$, $SD = 8.38$) and concern of child's weight ($Mean = 44.69$, $SD = 29.34$). The maternal perception of child's weight was associated with the child's BMI ($r = .464$, $p = .001$) and BFP ($r = .435$, $p = .001$). **Conclusions:** The CFQ is one of the most used questionnaires to assess parental child-feeding practices, in this study the internal consistency was acceptable. The mothers considered themselves responsiveness for child's feeding; however they underestimate their child's weight and the weight's child does not represent a concern. Also, an association was identified between maternal perception of child's weight with child's BMI and BFP. It is recommendable design and implement an intervention to help mothers to recognize when their child is overweight or obese.

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C028

6:00 PM-7:00 PM

MATERNAL FEEDING STYLES AND CHILDREN'S NUTRITIONAL STATUS OF DYADS RESIDENTS IN MEXICO'S SOUTHEAST

Flores Peña Yolanda, PhD, MNS, RN¹, Velia M. Cárdenas Villarreal, PhD, MNS, RN²¹Universidad Autónoma de Nuevo León, San Antonio, TX; ²Universidad Autónoma de Nuevo León, Monterrey NL, Mexico**Objectives:** 1) To identify maternal feeding styles (MFS) of Mexican mothers, 2) To identify the MFS of mothers in accordance of children nutritional status.**Method:** Descriptive and correlational study. Participated 338 dyads (mother – preschooler child) living in Tabasco (Mexico southeast). The mothers answered the Caregiver Feeding Style Questionnaire. Weight and height of dyads were measured. Descriptive statistics and *Chi*-square test were applied to verify the objectives. **Results:** The 30.5% of the mothers had an indulgent style (low demandingness/ high responsiveness), the 28.7% had an authoritarian style (high demandingness/low responsiveness), the 21.3% had an uninvolved style (low demandingness/low responsiveness), and the 19.5% had an authoritative style (high demandingness/high responsiveness). The mothers of children are overweight or obese had indulgent style (37.6%), the mothers of children as normal weight and underweight has authoritarian style (45.9% and 30.8% respectively), with significant difference (*Chi*-square = 15.301, *gl* = 6, *p* < .018). **Conclusion:** The authoritative style was less frequently; this style promotes independent thinking and self-regulation. The mother determines the details around the meal (what will be served, when it will happen, and where it will be served), but allows the child to decide if they will eat what is prepared, and how much they will eat. The mother of overweight and obese children has indulgent style; this style had been associated with higher child's body mass index. It is recommendable to develop educative strategies to promote the authoritative feeding style.

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C029

6:00 PM-7:00 PM

OBESITY AND PHYSICAL ACTIVITY: ARE THEY ASSOCIATED WITH SELF-RATED HEALTH AMONG RACIALLY DIVERSE ADOLESCENTS?

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Authors: Sanchez-Vaznaugh, EV., ScD, MPH, ^{1,2} Flores, E., MPHc, Giang, E., MPHc, Aldridge, A., MPHc, Barreiro, K., MPHc¹ San Francisco State University, Department of Health Education, SF, CA² Center on Social Disparities in Health, University of California San Francisco, SF, CA**Background:** Little is known about the association between overweight/obesity, physical activity, and self-rated health among racially diverse adolescents. **Purpose:** To investigate associations between overweight/obesity and physical activity with self-rated health among Asian, Latino, and White adolescents. **Methods:** Pooled cross-sectional adolescent data from the 2013 and 2014 California Health Interview Survey and logistic regression models examined the association between overweight/obesity (defined as BMI ≥ 85th percentile for age and sex), physical activity, and self-rated health (SRH) overall and by race/ethnicity. **Results:** Of the 2,011 adolescents, 36% were Whites, 53% Latinos, and 11% were Asians. In unadjusted analysis, overweight/obese adolescents were significantly more likely to report poor SRH (OR: 4.31; 95% CI: 3.08, 6.05) than their normal weight peers; results were similar after adjustments for demographic and socioeconomic factors. Conversely, physical activity (PA) was positively associated with excellent/very good SRH; each additional day of PA increased the likelihood of reporting excellent/very good SRH (OR: 1.19; 95% CI: 1.11, 1.28), after controlling for covariates. Results were similar among Asians (OR: 4.66, 95% CI: 1.20, 18.11 for obesity; OR: 1.26, 95% CI: 1.01, 1.58 for PA), Latinos (OR: 3.96, 95% CI: 2.41, 6.48 for obesity; OR: 1.22, 95% CI: 1.10, 1.35 for PA) and White adolescents (OR: 5.04, 95% CI: 2.80, 9.08 for obesity; OR: 1.15, 95% CI: 1.01, 1.31 for PA). **Conclusions:** Among adolescents, irrespective of race/ethnicity, both obesity and physical activity appear to be important predictors of self-rated health.

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CITATION AWARD WINNER

C030

6:00 PM-7:00 PM

ON-SCREEN PEER MODELING INDUCES PRESCHOOL CHILDREN'S VEGETABLE CONSUMPTION

Amanda E. Staiano, PhD, MPP¹, Arwen M. Marker, BA², Johannah M. Frelrier, BS¹, Daniel S. Hsia, MD¹, Corby K. Martin, PhD¹¹Pennington Biomedical Research Center, Baton Rouge, LA; ²University of Kansas, Lawrence, KS**Background:** One-third of preschool children eat zero servings/day of vegetables, and few consume the recommended three servings/day. In-person peer modeling is an effective method to induce vegetable consumption. The purpose of this study was to examine the influence of screen-based peer modeling on children's vegetable consumption and preference. **Methods:** This randomized controlled study assigned 42 children aged 3 to 5 years from two childcare centers to view a DVD segment of peers eating a modeled vegetable (i.e. bell pepper), peers brushing their teeth, or no DVD (control). On Day 1, children individually viewed a 7.5-minute DVD segment or sat quietly. Bell pepper and cereal were provided as snacks during the exposure on Day 1, then again on Day 2 and Day 7 without the DVD. Pre- and post-weights of the snacks determined consumption, and a 3-point Likert happy face scale gauged snack preference. Parents completed pre- and post-surveys to identify purchasing habits, home access to vegetables, and children's requests for specific vegetables. Analysis of covariance models adjusted for age, sex, body mass index, and initial bell pepper consumption. **Results:** When compared to the other conditions, children who viewed the modeled vegetable DVD consumed significantly more bell pepper at Day 7 (*p* = 0.047), with no differences at Day 1 or Day 2. Additionally, children who ate the bell pepper in the vegetable DVD condition reported higher preference towards the bell pepper (*p* = 0.01). Parents of children in the vegetable DVD condition were marginally more likely to have made bell peppers available in the home by Day 7, though there were no significant differences in purchasing habits of bell pepper or child's request for bell pepper at home. **Conclusion:** Peer modeling on a digital screen may be an effective tool to encourage vegetable consumption among preschool children. Future research should examine the efficacy of integrating on-screen peer modeling into longer-term dietary interventions for this age group.

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C031

6:00 PM-7:00 PM

OPINIONS OF PHARMACIST-PROVIDED HPV VACCINATION: NATIONAL STUDIES OF PRIMARY CARE PHYSICIANS AND PARENTS

Parth D. Shah, PharmD¹, William A. Calo, JD, PhD¹, Melissa B. Gilkey, PhD², Macary W. Marciniak, PharmD, BCACP, BCPS³, Noel T. Brewer, PhD¹¹UNC Gillings School of Global Public Health, Chapel Hill, NC; ²Harvard Medical School & Harvard Pilgrim Health Care Institute, Boston, MA; ³UNC Eshelman School of Pharmacy, Chapel Hill, NC**Purpose.** To characterize physician and parent support for pharmacist-provided HPV vaccination to adolescents who are past due for vaccination (ages 13-17). **Methods.** In 2014-2015, we conducted two national, online, cross-sectional surveys of primary care physicians (pediatricians and family medicine physicians) and parents of adolescents ages 11-17. Using an indicator of endorsement of pharmacist-provided HPV vaccination for adolescents who are past due, we categorized physicians and parents as either endorsing pharmacist-provided HPV vaccination or not endorsing it. Separate multivariable logistic models for physicians and parents were used to evaluate endorsement of pharmacist-provided HPV vaccination. **Results.** 79% of physicians and 81% of parents endorsed pharmacist-provided HPV vaccination when taking into account proper vaccination training, vaccine dose reporting, and referrals to a primary care provider for other health services. Family medicine physicians were more likely to endorse pharmacist-provided HPV vaccination than were pediatricians (OR = 1.62, 95% CI, 1.17-2.22), as were physicians who practiced in the Western region of the U.S. compared with physicians who practiced in the Northeast (OR = 2.11, 95% CI, 1.30-3.40). Parents were more likely to endorse pharmacist provision of HPV vaccine as overall satisfaction with their pharmacy's services (OR = 1.10, 95% CI, 1.02-1.19), agreement in a pharmacist's competence in vaccination practices (OR = 1.42, 95% CI, 1.18-1.70), and agreement with overall vaccine confidence (OR = 1.30, 95% CI, 1.15-1.48) increased. **Conclusion.** This study provides evidence that physicians and parents may have more positive attitudes towards pharmacist-provided HPV vaccination than was previously indicated in research, further providing support to expand HPV vaccinations into pharmacies. Comprehensive vaccination program for pharmacies will require standardization of health care communication between pharmacists and primary care physicians to elicit strong support from physicians and parents.

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C032

6:00 PM-7:00 PM

PEDIATRICIAN INPUT ON INTEGRATING ADVICE ABOUT INTENTIONAL TANNING INTO ADOLESCENT PRIMARY CARE

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Rates of melanoma, the most serious form of skin cancer, have been steadily rising in the U.S. since the 1970s. In particular, rates of melanoma among young women have doubled over the past 20 years. Intentional ultraviolet radiation exposure, through sunbathing and/or use of indoor tanning devices, is common among teen girls, and is a strong risk factor for melanoma. Although primary care skin cancer prevention counseling for fair-skinned individuals (aged 10-24) has recently become reimbursable through the Affordable Care Act, to date, there is no comprehensive pediatric resource to enhance such counseling with this population. This study aimed to identify strategies for comprehensive health risk assessment and counseling in clinical practice specific to female patients aged 13-15, and to garner feedback concerning methods for integrating advice about intentional tanning avoidance. Seven of 15 proposed semi-structured interviews have been conducted to date. Interviews were audio-recorded, transcribed, and coded using a thematic analysis approach. Participants were pediatricians practicing in New York City and Long Island for 5-20 years and 100% female. All reported diverse patient populations (25% to 70% Caucasian). Themes included: utility of formal adolescent risk assessment (e.g. HEADSS), risk identification and personalized risk-based advice, and identification of barriers to comprehensive care. Pediatricians were fairly consistent regarding high priority risk factors (i.e., sexual behavior, substance use, mental health), reported rarely using outside resources to facilitate health guidance, and regularly encountered barriers such as patient receptivity, rapport building, and time commitment. Pediatricians noted that sun protection counseling was a lower priority, and indoor tanning was rarely discussed. Results reveal areas for improvement in providing complete skin cancer prevention counseling, and identify potential means of integrating pediatrician advice about intentional tanning into existing models for health risk assessment and counseling.

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C033

6:00 PM-7:00 PM

PSYCHOSOCIAL ADJUSTMENT IN MOTHERS WITH INFANTS IN THE NICU THROUGH THE PAT-NICU SCREENING TOOL TO IDENTIFY HIGH-RISK FAMILIES

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Background: Having an infant in the neonatal intensive care unit (NICU) can be a distressing event for parents and families. Parents of preterm infants in the NICU, for example, experience high rates of anxiety, depression, and trauma-related disorders (Shaw et al., 2006; Shaw et al., 2009). Identifying other risk factors that can potentially impact parental adjustment is critical in efforts to allocate limited psychosocial resources for parents with infants in the NICU. Our aim was to examine the distribution of scores of the Psychosocial Assessment Tool – NICU (PAT-NICU), a psychosocial screener tool for use with families of premature infants in the NICU. Methods: Participants: Participants included 56 mothers of infants admitted to the NICU. Inclusion criteria were: having an infant admitted for prematurity (less than 37 weeks gestation), length of NICU stay scheduled for 1 week or more, proficient in English, and 18 years of age or older. Procedures: Mothers completed the Psychosocial Assessment Tool-NICU (PAT-NICU) 1-2 weeks after their infant's admission to the NICU. Measures: The PAT-NICU (Lassen et al., 2010), is a 30-item, 5-subscale psychosocial risk screener modified from the Psychosocial Assessment Tool, version 2 (PAT2.0; Pai et al., 2007) for use in the NICU population. It has demonstrated good internal consistency, feasibility, and acceptability (Lassen et al., 2010). Psychosocial assessment tool-NICU (PAT-NICU) is a measure used to assess the following psychosocial risk domains: family problems, parent stress reactions, sibling problems, family beliefs and social support. Results: Data are currently being analyzed. Our primary hypothesis is that scores on the PAT-NICU will follow a normal distribution thus accurately identifying mothers in different risk groups. Additionally, it is anticipated that the PAT-NICU will have a spread of scores similar to the PAT 2.0 and will be examined using similar cutoffs.

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C034

6:00 PM-7:00 PM

RELATIONSHIP BETWEEN CHILD HEALTH LITERACY AND HEALTH-PROMOTING LIFESTYLE

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INTRODUCTION Few studies have examined the contribution of children's health literacy (HL) to their health-promoting lifestyle. Past methods emphasizing clinical contexts and measurement of adults' functional HL cannot be compared with children's life experiences. This study aimed to fill the gap by using a validated child health literacy test, and to investigate the relationship between health-promoting lifestyle and child HL. **METHODS** A cross-sectional web survey was conducted with sixth grade students in Taiwan. The Taiwan Child Health Literacy test was developed with sixth grade elementary school students using a grounded approach capturing HL abilities across the 10 health education areas of the Taiwan National Health Education Curriculum. This was done through a series of qualitative workshops, expert reviews, and field testing. A 25-item test with 10 scenarios was finalized. The health-promoting lifestyle was assessed using the short version of the Chinese Health-Promoting Lifestyle Profile (HPLP-S) modified for sixth grade students, which included six dimensions with 18 items. Information on gender, parents' education level, self-rated health status, and BMI was also collected. We selected 432 children using stratified random sampling; the response rate was 91.1%. **RESULTS** The mean HL was about 17.33 (total score was 25) and the correct rate was 69.32%. The multiple regression after controlling for other variables revealed that children with a higher HL score were more likely to have a better health-promoting lifestyle ($\beta=0.143$, $p<.001$), and better performance in the dimensions of nutrition ($\beta=0.188$, $p<.001$), stress management ($\beta=0.141$, $p<.001$), interpersonal support ($\beta=0.143$, $p<.001$), and self-actualization ($\beta=0.173$, $p<.001$). No significant association was found between HL and the dimensions of exercise and health responsibility in the children. **DISCUSSION** Considering the low correct rate of HL in the children and its inverse relationship with a health-promoting lifestyle, the important role of HL in improving national health education was identified. These results can be used as a reference by government health education units, to increase the practical significance of national health education policies.

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C035

6:00 PM-7:00 PM

SEEING THE GLASS AS HALF EMPTY OR HALF FULL: PARENT & PATIENT REPORTS OF HEALTH-RELATED QUALITY OF LIFE IN PEDIATRIC RHEUMATOLOGY

Elissa R. Weitzman, ScD, MSc¹, Parissa K. Salimian, BA², Qian Huang, MPH²

¹Harvard Medical School; Boston Children's Hospital, Boston, MA; ²Boston Children's Hospital, Boston, MA. Considerable evidence supports the role of health-related quality of life (HRQOL) on treatment participation hence outcomes. For pediatric cohorts, parent and teen reports of factors related to HRQOL may differ. Understanding differences may help explain apparent shifts in disease trajectories and symptoms – driving improved understanding of the comparative effectiveness of therapies and promoting good outcomes. Understanding differences may also advance efforts to engage adolescents in decision-making about their care and in health research, under models that are truly patient-centered and adolescent-friendly. **Methods:** Consented patients and parents from 4 sites in the national Childhood Arthritis and Rheumatology Research Alliance Registry were enrolled contingent on child diagnosis of juvenile idiopathic arthritis, lupus, or mixed connective tissue disease and use of a treatment medication. Patient reported outcome (PRO) measures were collected on a tablet. Concordance between parent and teen reports of PROs was ascertained using Spearman correlation for measures of HRQOL and pain interference, and Cohen's Kappa for measures of methotrexate (MTX) intolerance and morning stiffness. **Results:** Among 198 parent/teen dyads (70% participation rate), strong correlations were observed among HRQOL total, psychosocial, and physical scores ($\rho=0.7$, 0.6 , 0.8 respectively; $p<.0001$ for all), pain interference ($\kappa=0.7$, $p<.0001$), morning stiffness ($\kappa=0.7$, $p<.0001$), and MTX intolerance ($\kappa=0.5$, $p=.0019$). Yet, parent/teen differences in median values of PROs were found: Relative to teen reports, parents perceived their child's health status and symptoms as worse ($p<.01$ for all), suggesting an optimistic bias among teens, or conservative assessment of health status by parents. **Conclusions:** Parents and teens affected by pediatric rheumatic disease differ in their evaluation of HRQOL-related measures. As youth transition care settings and exercise autonomy around health reporting and care, providers would benefit from understanding how optimistic bias among teens and pessimistic bias among parents might color evaluation of disease factors and drive treatment decisions. Future research linking parent/teen PRO reports to objective disease measures may further deepen understanding of this issue.

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C036

6:00 PM-7:00 PM

SELF-MANAGEMENT IN PEDIATRIC ENDOCRINOLOGY: ASSESSMENT AND CORRELATES

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Introduction Pediatric endocrinology patients, including those with T1DM and growth deficiencies, are taught how to manage their medical regimen. Self-management (SM) though can be a complicated, difficult process for families. We examined SM among T1DM and understudied short stature patients, who may receive human growth hormone (HGH) treatment for several years, as well as associations with distress among both patients and parents. **Methods** Patients ages 8-17 with T1DM (N=47, mean age = 13.05, range = 8-17) or receiving HGH treatment for short stature (N=56, mean age = 13.24, range = 8-17), were recruited with a parent. Patients completed measures of depression, Children's Depression Inventory (CDI) and anxiety, the Screen for Childhood Anxiety Related Emotional Disorders (SCARED). Parents were asked about their own symptoms using a measure of depression, the Center for Epidemiological Studies Depression Scale (CES-D), and distress, the Impact of Events Scale (IES). Both parties completed the Diabetes Family Responsibility Questionnaire, a validated measure of SM (with modifications for HGH patients). **Results** For T1DM patients, level of SM was significantly correlated with age according to both patient and parent report (r for patient report and age = .54, $p < .01$; r for parent report and age = .54, $p < .01$) but for HGH these values were non-significant (r 's = .18, .35 respectively). In both groups patient and parent report was consistent (T1DM, r between the two = .59; HGH r = .70, p 's < .01). For T1DM, SM was correlated with patient depression (CDI), r = .34, p = .03 and parent distress (IES), r = -.31, p = .04 but not with anxiety or parent depression. There were no significant associations in the HGH group. **Conclusions** Patterns of SM were different between the two patient groups. For T1DM, SM increased with age and was more distressing to both patients and parents, but in different directions. In the HGH group, age and mental health correlates were unrelated to SM level. These findings are indicative of perhaps less emphasis on SM for pediatric patients receiving time-limited treatments but also of its complicated impact on families when the regimen is life-long. Given the influence of SM on adherence, more attention to it is needed.

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C037

6:00 PM-7:00 PM

SELF-RATED HEALTH AMONG DIVERSE ADOLESCENTS WITH TYPE 1 DIABETES

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Worse self-rated health (SRH) is a well-established predictor of morbidity and mortality in adults. In adolescents, SRH is a moderately stable indicator of overall health, related to both physical and mental health outcomes. The current study examined correlates of SRH among ethnically diverse adolescents with type 1 diabetes (T1D).

Participants completed self-report measures during the wait time for their regularly scheduled endocrinology appointment. We examined relationships between SRH, glycemic control, diabetes self-care, and socioeconomic status. Adolescents ($n = 83$, 53% female; $M[SD]$ age=15.9[2.1]; diabetes duration=6.7[3.7]) were predominately ethnic minorities (29% African American, 47% Latino); 59% were born or had a parent born outside of the US. Most had sub-optimal glycemic control (88% with $A1c > 7.5\%$).

Spearman's rank order coefficients showed a significant correlation between better SRH and lower $A1c$ ($\rho = -.29$, $p < .01$), insulin delivered through a pump ($\rho = .36$, $p < .01$), male sex ($\rho = .28$, $p < .05$) and better self-reported diabetes self-care ($\rho = .33$, $p < .01$). SRH was not related to diabetes duration, age, parent education, or race/ethnicity. SRH was collapsed into 2 categories (poor/fair and good/excellent) and entered as a dependent variable in logistic regression models, controlling for age and duration of diabetes. Those with higher $A1c$ (OR = .58, 95% CI: .44, .77) reported worse SRH. Males (OR = 3.24, 95% CI: 1.29, 8.17), those on an insulin pump (OR = 4.22, 95% CI: 1.64, 10.87), and those with better self-care (OR = 3.71, 95% CI: 1.51, 9.11, $p < .05$) showed higher SRH. When all predictors were entered into the same model, only $A1c$ retained significance (OR = .53, 95% CI: .43, .64).

We found that females, those on insulin pump, those with poor self-care, and those with higher $A1c$ reported lower SRH. $A1c$ explained the relationship between insulin delivery method and SRH through an indirect effect, despite a lack of significant mean differences in $A1c$ between those on insulin pump as compared to those taking multiple daily injections. Further longitudinal study is needed to clarify the direction of these relationships.

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C038

6:00 PM-7:00 PM

CHRONIC COGNITIVE EFFECTS OF SAUNA FOLLOWING AEROBIC EXERCISE ON PROCESSING SPEED

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Exercise has been shown to be a viable non-pharmacological treatment for reducing blood pressure and improving cognitive functioning. Alternative and complementary interventions have been used in conjunction with exercise with the aim of enhancing these effects, with limited success. These data were derived from physical, psychosocial, and neuropsychological assessments, administered at baseline and 8-week follow-up (study's end) of a randomized controlled study, comparing moderate intensity aerobic exercise (40-55% max heart rate) followed by 10-15 minutes of sitting in a co-ed sauna (160° F; HEAT group) vs. exercise and sitting alone in the locker-room (ExOnly). Young adults ($n=22$, ages 18-24) were recruited (adherence rate to 17 sessions: $\mu=85\%$; 3 withdrawals) and completed baseline measures of processing speed (*Digit Symbol Substitution Task, Letter Comparison, & Pattern Comparison*), which were summed to create a composite score (PS). An ANOVA showed a significant group effect on PS [$F(1,20) = 3.43$, $p < .04$, $\eta^2 = .15$], whereby the HEAT group showed more favorable improvement. The effect of group remained significant after adjusting for gender, attendance, bioelectrical-impedance-derived body fat percentage, and baseline pre-hypertension ($n=13$), [$F(1,16) = 9.73$, $p < .01$, $\eta^2 = .38$]; attendance and pre-hypertension were also significant predictors of PS change. Response rate to the end-of-study evaluation was 77.3% ($n=17$). Among respondents from the HEAT condition, 88.9% reported the sauna improved thinking and information processing ability. This study shows the first evidence of additive effects of exercise combined with mild whole-body heat stress on cognitive functioning.

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C039

6:00 PM-7:00 PM

DEVELOPMENT AND FEASIBILITY TESTING OF ALMA MINDFULNESS INTERVENTION TO IMPROVE THE MENTAL HEALTH OF LATINA IMMIGRANT MOTHERS

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Objective: Latina immigrant women are at an increased risk of adverse mental health outcomes due to economic, political, cultural, and social challenges of migration and resettlement. Over recent years, mindfulness has become a popular framework for mental health interventions in community settings. The purpose of this study was to develop and pilot test mindfulness content for the Amigas Latinas Motivando El Alma (ALMA) program to reduce symptoms of depression, anxiety, and parenting-related stress among Latina immigrant mothers. **Methods:** Latina immigrant mothers ($N = 24$) were recruited from a community-based organization to receive a 5-week mindfulness curriculum facilitated by a trained Spanish-speaking yoga and mindfulness instructor. Session content included multiple elements of mindfulness, including self-compassion, awareness, guided meditation, and yoga. Participants were assessed pre- and post-intervention on outcome measures of parenting stress (PSI), perceived stress (PSS), mindful awareness (MAAS), depression (PHQ-9), and anxiety (GAD-7). **Results:** Participants were predominantly Mexican (79%) with a mean age of 45.4 and average 12.7 years lived in the U.S. 71% of women attended at least 3 sessions, with an average of 15 attendees at each. Among the 21 participants who completed both pre- and post-test measures, there were reductions in symptoms of depression and anxiety (24% reduction in mean PHQ-9 scores, and 30% reduction in mean GAD-7 scores). Responses from post-survey focus group questions indicate participants' eagerness to continue the program and overall satisfaction with session content. **Conclusions:** Preliminary findings suggest that the mindfulness content was well received by program participants and may be beneficial in reducing symptoms of depression and anxiety among Latina immigrant mothers. Future studies should evaluate the feasibility and efficacy of mindfulness interventions to reduce mental health disparities.

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C040

6:00 PM-7:00 PM

EFFECTS OF EXERCISE COMBINED WITH THERMAL THERAPY ON BLOOD PRESSURE AND PSYCHOSOCIAL OUTCOMES: A PILOT RCT

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Exercise is among the top non-pharmacological treatments recommended by the *American Heart Association* for reducing blood pressure (BP). However, treatments typically reduce systolic (SYS) and diastolic (DIA) BP by < 5mmHg. Thermal therapy (e.g., sauna) has been shown to be effective at reducing BP among healthy adults and those with coronary risk factors. This pilot RCT was designed to test the additive benefits of bi-weekly, moderately intensive (40-55% max HR) aerobic exercise followed by 10-15 minutes of sauna use (HEAT) vs. an exercise-only condition matched for time spent sitting post-exercise (in locker-room). We hypothesized a more favorable reduction in BP and psychosocial stress in the aerobic exercise plus sauna condition. Twenty-two young adults (ages 18-24) were recruited for an 8-wk study (17 total sessions) and completed a large battery of physical, behavioral, cognitive, and psychosocial assessments (e.g., mindfulness). Manual resting blood pressure (from a seated position) was assessed twice, one week apart, at study start and end by certified Emergency Medical Technicians. Upon deploying multiple imputation procedures for missingness (3 withdrawals) both pre- and post-assessments were averaged and SYS and DIA BP change scores were computed. Results of analyses of variance partially supported our hypotheses. Significant improvements were found for HEAT (vs. ExOnly) in resting SYS BP (M change = 8.41 mmHg vs. 3.34 mmHg, $p < .05$, one-tailed). DIA BP change was not significantly different between groups (3.07 mmHg vs. 4.65 mmHg). The HEAT group also exhibited a higher degree of intra-session heart rate variability and self-reported a higher degree of internally-focused thoughts. Among respondents from post-study evaluation reports (77.3% overall response rate), a greater percentage of HEAT participants reported stress reduction (88.9% vs. 71.4%), enjoyed the program (100% vs. 85.7%) and wanted to lower or maintain the 2 sessions per week dose (77.8%; whereas 22.2% wanted to increase the dose vs. 28.6% of ExOnly). Findings suggest that brief, whole-body heat therapy after exercise offers potent effects and benefits beyond exercise alone.

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C041

6:00 PM-7:00 PM

EFFICACY OF A PEER-RUN INTEGRATED SERVICE MODEL FOR SMI AND DUAL-DIAGNOSIS CLIENTS

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There are many barriers and challenges to treating people with serious mental illness especially when they also suffer from physical health limitations or substance use. To improve care for this population, the LA County Department of Mental Health implemented several models of integrated care. One model was the Peer-Run Integrated Service Model (PRISM), which attempted to improve behavioral health outcomes primarily through peer support and linkages. The other models were the more traditional integration of mental and physical health clinics. The current study examines outcomes for the PRISM model after three years of service and compares them to outcomes for clients served in Traditional models. There were significant improvements in client mental health from baseline to six months for PRISM clients on the Illness Management and Recovery scale ($t=3.719$, $p < .005$). From baseline to six months, there were no significant changes in client physical health (PROMIS Global Physical Health, blood pressure, body mass index) or in client-reported alcohol or substance use. However, there was an increase in client-perceived negative consequences associated with their substance use as measured by the PROMIS-Derived Substance Use scale ($t=-2.242$, $p=.039$). Several PRISM results were comparable to the Traditional models. Clients from PRISM and the Traditional models had similar change in drug use and the physical health outcomes. However, Traditional programs were significantly more effective at reducing client alcohol use ($F(1, 1608)=5.483$, $p=.019$) and the negative consequences of substance use ($F(1, 551)=8.223$, $p=.004$), and at improving mental health outcomes ($F(1, 2183)=14.198$, $p < .005$). Traditional models reduced client-reported alcohol use and decreased the negative consequences of substance use, while PRISM clients increased use and consequences. Client mental health outcomes improved for both models, however clients from the Traditional model saw a greater improvement.

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C042

6:00 PM-7:00 PM

EVALUATION OF THREE DOSAGE LEVELS OF BREATHING MEDITATION APP ON BLOOD PRESSURE CHANGES AMONG PREHYPERTENSIVE ADULTS

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Prehypertension (HTN), a leading risk factor for HTN and cardiovascular disease (CVD) events affects ~33% of adults in the USA. Primary prevention programs are needed for pre-HTN that can be sustained and easily disseminated by healthcare providers. Psychological stress is a risk factor for HTN and CVD. Stress reduction via breathing awareness meditation (BAM) has been shown to reduce BP but research has not determined optimal dosage level nor objectively evaluated dosage adherence. The goal of this three-arm feasibility trial is to assess acceptability and efficacy signals of 3 dosages of Tension Tamer (TT), an Android and iOS smartphone BAM app. TT integrates BAM written/audio instructions with proprietary embedded, validated reflective photoplethysmography (PPG) software, enabling real time heart rate (HR) capture. Users receive BAM audio instructions and place an index finger over the camera lens, activated during BAM sessions. Pulsatile blood flow changes are detected and processed. At the end of the TT session, users receive a feedback graph depicting the session's HR changes. Continuous HR data are sent to remote data servers for time stamped adherence monitoring. Users receive tailored motivational and reinforcement messages and relevant educational and research info on benefits of BAM. Thirty-five adults (mean age: 32.7 yrs; 19 males; 24 White, 11 Black) were identified with systolic preHTN on 3 consecutive occasions (mean=128.8 mmHg). They received the TT app and were randomly assigned to 5, 10, or 15 min sessions twice per day for 3 mos. Average adherence rates declined from mo 1 to mo 3 across dosage groups ($p < .001$) from .85 to .77 for 5 min; .91 to .81 for 10 min and .78 to .50 for 15 min dosage group. Clinically meaningful and statistically significant reductions in SBP were observed at 1 and 3 mos for each dosage group ($p < .001$): 5 min: -9.8 and -10.9 mmHg; 10 min -11.4 and -8.5 mmHg and for 15 min dosage: -11.5 and -13 mmHg. Initial results suggest the TT app is acceptable and useful in objectively tracking meditation adherence. Data collection is ongoing and 6 month results will be presented. Additional results will clarify whether the observed SBP reductions are maintained. A most effective dose will be determined and further patient guided refinements made in the TT app prior to an efficacy RCT.

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C043

6:00 PM-7:00 PM

FACETS OF MINDFULNESS, SELF-COMPASSION, AND EATING BEHAVIOR

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Recent research suggests that greater mindfulness and self-compassion may protect against unhealthy eating. However, more research is needed to elucidate which specific aspects of mindfulness and self-compassion are related to various aspects of eating behavior. The current study investigated whether specific facets of mindfulness and self-compassion are associated with tendencies for distracted, emotional, disinhibited, and externally cued eating. Forty-nine undergraduate students (54.7% female) completed the Five Facet Mindfulness Questionnaire (FFMQ), Self-Compassion Scale (SCS), and Mindful Eating Questionnaire (MEQ). Regression analyses were conducted to examine unique associations between mindfulness facets (Observing, Describing, Acting with Awareness, Non-Judging, Non-Reacting), self-compassion subscales (Self-Kindness, Self-Judgement, Common Humanity, Isolation, Mindfulness, Over-Identification), and eating behavior. Primary outcomes were MEQ subscales (Awareness, Distraction, Disinhibition, Emotional Eating, Over-Identification, External Cues). Over and above other mindfulness facets, greater Acting with Awareness was associated with less disinhibited ($\beta = .35$, $p = .028$) and distracted ($\beta = .26$, $p = .044$) eating. Greater Non-Judging was related to less distracted eating ($\beta = .38$, $p = .004$) and less influence by external cues ($\beta = -.42$, $p = .006$). Over and above other SCS subscales, greater Self-Kindness was associated with less influence by external cues ($\beta = -.52$, $p = .027$), and greater Common Humanity was associated with more awareness when eating ($\beta = .45$, $p = .024$). Overall, results suggest that the greater awareness individuals bring to their daily experience, the less they appear to engage in distracted and disinhibited eating. Moreover, individuals who are kinder (less judgmental) to themselves appear to engage in less distracted eating and are less influenced by external cues to eat. Future programs for promoting healthier eating may benefit from specifically encouraging acting with awareness, self-kindness (vs. self-judgment), and a sense of common humanity.

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C044

6:00 PM-7:00 PM

HEALTH DISPARITIES BETWEEN UNDERREPRESENTED ETHNIC POPULATIONS IN LOS ANGELES COUNTY

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The LA County Department of Mental Health designed the Innovation Program to identify new and promising practices that can be applied to the integration of mental health, physical health and substance use services for uninsured, homeless and underrepresented populations. The Community-Designed Integrated Service Management Model (ISM) provided a holistic model of care whose components were defined by five specific under-represented ethnic populations (UREP) and promoted collaboration and community based partnerships to integrate health, mental health and substance abuse services together with alternative, or non-traditional services to support recovery. The primary goals were the same for ISM programs from each of the UREP groups. These included improved client mental and physical health, reduced substance use, reduced mental health stigma, increased social involvement including employment, school, or volunteer work, and overall satisfaction with services. These outcomes were assessed through client self-report, mental health clinician report, and primary care physician report. Matched samples of participants at the baseline and twelve month assessment were used to assess client improvement based on each of the outcomes. Analyses of client data indicate differences in alcohol use, drug use, mental health, physical health, and stigma at baseline between UREPs. After offering services for two years, there were disparities in the amount of improvement observed in alcohol use ($\chi^2=50.179$, $p=.006$), drug use ($\chi^2=52.167$, $p=.004$), blood pressure ($\chi^2=62.731$, $p<.005$) and mental health ($\chi^2=61.097$, $p<.005$). For some outcomes, the baseline needs gap was reduced indicating a potential ceiling effect, however the disparity between UREPs increased for other outcomes. Analyses indicate that social support and the involvement of friends and family in a client's treatment varied for clients from different UREPs which could also have affected outcomes.

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C045

6:00 PM-7:00 PM

MINDFULNESS-BASED DIABETES RISK REDUCTION FOR AFRICAN AMERICANS WITH PREDIABETES: A PILOT, SEQUENTIAL MIXED-METHODS RCT

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Background: Type 2 diabetes is a growing epidemic in the U.S. Culturally relevant interventions are needed to prevent diabetes among African Americans, who experience disproportionately high rates of diabetes-associated morbidity and mortality. Integration of mindfulness-based stress reduction with diabetes risk reduction education may improve stress-related psychoneuroendocrine processes and enhance engagement in healthy behaviors critical for preventing diabetes. **Methods:** This pilot mixed-methods, RCT was designed to collect feasibility and preliminary efficacy data on a mindfulness-based diabetes prevention education program (MDP) versus a conventional diabetes prevention education program (CDP) among African American with prediabetes aged 25 and above. Each group met for 8 weeks, with a four-hour session between weeks five and six, and six monthly booster sessions. The primary outcome, measured at two weeks, three months, and six months, was homeostatic model assessment of insulin resistance (HOMA-IR). Additional outcomes included A1C, fasting glucose and oral glucose tolerance test (OGTT), salivary cortisol, psychological stress, depressive symptoms, BMI, waist-hip-ratio, physical activity, dietary recall, intervention credibility, spirituality, and demographics. Interviews provided information about feasibility, cultural relevance, and acceptability. Data were analyzed based on intention to treat. **Results:** This study demonstrated feasibility of intervention recruitment, retention, attendance, and credibility. Although no differences were noted in the HOMA-IR or other physiologic measures, MDP participants had greater reductions in perceived stress at two weeks and three months post intervention and greater improvements in peacefulness two weeks post intervention. There were also trends for reduction of calorie, fat, and carbohydrate intake among MDP participants, but not CDP participants. **Conclusions:** Participation in the MDP intervention was generally feasible for African Americans with prediabetes. Participants provided valuable guidance for improving the protocol. Findings can inform future investigations of mindfulness-based interventions to reduce stress-related risk factors in African American adults with prediabetes.

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C046

6:00 PM-7:00 PM

POTENTIAL MECHANISMS OF THE RELAXATION RESPONSE RESILIENCY PROGRAM (3RP) FOR PROMOTING PERCEPTIONS OF RESILIENCY

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Chronic stress is a prevalent problem with significant negative health effects that occurs when environmental demands exceed an individuals' coping capacity. Elicitation of the relaxation response (RR) has been shown to reduce the effects of chronic stress, and RR elicitation is an important factor for promoting resiliency – a multidimensional construct involving an individual's ability to maintain adaptive functioning to chronic stress. We developed the Relaxation Response Resiliency Program (3RP), an 8-session multimodal intervention that utilizes mind-body and cognitive-behavioral skills training to increase awareness and adaptive responding to stress; the 3RP promotes positive physical and mental health outcomes. However, the effects of the 3RP on self-efficacy, or belief in one's resiliency, have yet to be examined. The purpose of the current non-randomized, naturalistic study was to examine the potential efficacy and mechanisms of the 3RP for enhancing resiliency perceptions (General Self-Efficacy Scale [GSE]) among 24 patients who attended the 3RP in a clinic setting and completed self-report measures before and after participation ($M_{age} = 47.96$, $SD = 15.01$; 54% female). We hypothesized that participation in the 3RP would be associated with an increase in the GSE, and increases in mindfulness and coping, and decreases in worry would be associated with improvements in GSE. Results indicated that GSE significantly improved post-treatment ($M_{pre} = 29.95$, $M_{post} = 31.25$, $t = 3.27$, $p = .004$). Worry (PSWQ), mindfulness (CAMS-R), and coping (MOCAS-A) also significantly improved (all p 's < .001). Decreases in worry ($r = -.55$, $p = .02$) and increases in coping ($r = .68$, $p = .001$) were associated with increases in the GSE. Increases in mindfulness ($r = .38$, $p = .10$) showed a trend toward association with the GSE. These findings provide preliminary evidence that the 3RP improves cognitive dimensions of resiliency, potentially through intervening and targeting worry and coping skills.

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C047

6:00 PM-7:00 PM

STRESS REDUCTION AND EMOTIONAL WELLBEING FOLLOWING THE RELAXATION RESPONSE RESILIENCY PROGRAM (3RP)

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Background: Chronic stress is associated with decrements in mental and physical health. An 8-session, multimodal intervention combining cognitive-behavioral skills training with elicitation of the relaxation response (Relaxation Response Resiliency Program; 3RP) has been previously used to successfully reduce chronic stress, as well as improve other psychosocial outcomes in a variety of healthy and medical populations. To date, however, it is unclear whether improvements in stress are differentially associated with 3RP-related improvements in anxiety, depression, or fatigue. This non-randomized, naturalistic study thus aimed to provide a preliminary examination of these associations. **Method:** Participants ($n=22$; age $M=50$ yrs, $SD=15$ yrs; 54% female) presenting at the Massachusetts General Hospital Benson-Henry Institute completed validated self-report measures before and immediately following the 3RP intervention assessing perceived stress (Perceived Stress Scale-10) anxiety symptoms (Generalized Anxiety Disorder-7), depressive symptoms (Patient Health Questionnaire-9), and fatigue (1-item analog scale). Paired-samples t-tests assessed pre-post 3RP changes in variables. Hierarchical regression models were constructed to predict changes in stress from changes in anxiety, depression, or fatigue, while controlling for initial levels. **Results:** Following 3RP, significant reductions were observed in perceived stress ($M_{pre}=20.68$, $M_{post}=14.27$, $t=4.49$), anxiety ($M_{pre}=9.61$, $M_{post}=4.63$, $t=3.99$), depression ($M_{pre}=8.36$, $M_{post}=4.86$, $t=3.69$), and fatigue ($M_{pre}=66.29$, $M_{post}=48.79$, $t=3.50$), all p 's < .05. Changes in perceived stress were most strongly associated with changes in anxiety ($\beta=0.55$, $t=4.54$, $p<.001$), followed by changes in depression ($\beta=0.39$, $t=3.04$, $p<.01$) and fatigue ($\beta=0.36$, $t=2.92$, $p<.01$). **Discussion:** We observed significant reductions in levels of perceived stress, anxiety, depression, and fatigue among participants after completing the 3RP in a clinic setting. Reductions in perceived stress were most strongly associated with decreases in anxiety, suggesting that stress-related effects may be driven by learning more effective ways to cope with anxiety-related symptoms.

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C048

6:00 PM-7:00 PM

THE EFFECT OF YOGA INTERVENTIONS ON BLOOD GLUCOSE LEVELS IN ADULTS WITH TYPE 2 DIABETES: A META-ANALYSIS

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The Effect of Yoga Interventions on Blood Glucose Levels in Adults with Type 2 Diabetes: A Meta-Analysis

Background: Type 2 diabetes is a disease marked by deficits in carbohydrate metabolism and high levels of blood glucose. The prevalence of Type 2 diabetes continues to increase annually worldwide along with costs for treatment, making alternative treatments highly sought after. Literature on yoga as an intervention for type 2 diabetes is growing, but results and quality of these studies vary. **Objective:** The present study examined the effect of yoga interventions on blood glucose levels among adults with type 2 diabetes by systematically assessing the current literature and conducting a meta-analysis. **Methods:** A thorough literature search was conducted using the computerized databases MEDLINE/PubMed, Ebsco Host, the Cochrane Library, IndMED, and reference lists between March 2014 and August 2014. Studies assessing the effect of yoga interventions on blood glucose levels (HbA1c, FBG, and PPBG) were considered. The final studies were coded for several moderating variables and effect sizes were computed. **Results:** Twenty-one studies with a total of 1602 participants were included. A random-effects meta-analysis revealed that on average, adults with type 2 diabetes who completed a yoga intervention had blood glucose levels that were 1.00 standard deviation lower than controls ($p < .001$). There was significant heterogeneity $\tau^2 = 0.88$, $Q(20) = 1908.73$, $p < .0001$ indicating that there was systematic variation among the effect sizes. Moderator analyses will be presented and discussed. **Conclusions:** This meta-analysis provides evidence for the clinically important effects of yoga on blood glucose levels among adults with Type 2 Diabetes. Yoga can be used as a safe and effective adjuvant therapy, accompanying standard care for Type 2 Diabetes.

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C049

6:00 PM-7:00 PM

CHARACTERIZING DIABETES RISK AND PERCEPTIONS IN HIGH-RISK EMERGING ADULTS

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Background: Type 2 (T2) diabetes (DM) continues to be a leading public health concern that is largely preventable through healthy lifestyle. Physical inactivity, poor diet, and family history (hx) are risk factors for development. Disease risk perceptions have not been widely explored in at-risk emerging adults due to their relatively healthy status. However, targeting these individuals may prevent or delay the progression of T2DM. **Aim:** This pilot study examines preliminary data from an ongoing study assessing health behaviors and disease risk perceptions among emerging adults who have genetic and behavioral risks for developing T2DM. **Method:** Ss were recruited in a state known for poor health outcomes and high rates of diabetes. Ss were 21 sedentary emerging adults (18–25) with a family hx of T2DM (71.4% White, 85.7% female, M age = 20.52). Ss completed validated self-report measures assessing health hx, diet and exercise behaviors (SDSCA) and intention, and risk perceptions for developing DM (RPS-DD). Ss weight and VO_2 Max were obtained. **Results:** The majority of Ss were overweight (38.1%) or obese (23.8%). Cardiovascular fitness levels based on VO_2 Max are as follows: 4.8% Superior; 28.6% Good; 42.9% Fair; 14.3% Poor; 9.5% Very Poor. M SDSCA Diet score = 3.87 ($SD = 1.34$) and Exercise score = 2.81 ($SD = 1.11$), suggesting low engagement in healthy diet and exercise behaviors. Intentions to eat healthy were low ($M = 1.82$, $SD = .75$), while exercise intentions were moderate ($M = 4.96$, $SD = 1.99$). 95.2% deemed their risk for developing DM was low. **Conclusion:** The present sample demonstrates a multitude of risk factors. Despite low engagement in healthy diet and exercise, Ss expressed intention to improve physical activity, but not diet behaviors. In addition, the majority of Ss believed themselves to be at low risk for T2DM. This suggests that individuals may not have a proper understanding of the behavioral causes for disease. To best inform efficacious behavioral interventions for T2DM, it is important to characterize risk and examine the role of risk perceptions in behavior change.

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C050

6:00 PM-7:00 PM

DEVELOPMENT OF AN E-HEALTH TOOL FOR PARENTS OF TEENS WITH TYPE 1 DIABETES (T1D)

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The purpose of this study was to develop a prototype of an e-Health tool for parents of teens with T1D to decrease parent stress, support teen autonomy, and enhance safe transfer of T1D management from parent to teen.

We used a mixed-method, multi-phase design, engaging targeted users (parents and health care providers) in the prototype development and evaluation. In Phase 1, we conducted parent interviews ($n = 27$) and provider focus groups ($n = 17$) to determine content and eHealth features. These data informed the development of a prototype, which included the homepage, site outline, content on one theme, and placeholders for interactive exercises. In Phase 2, parents ($n = 53$) and providers ($n = 27$) reviewed and evaluated the eHealth prototype in interviews and surveys. We used content analysis to analyze qualitative data and descriptive statistics for survey data.

We identified six content themes: parenting a teen with T1D, developing an effective partnership with teens, communicating positively, transferring T1D management from parent to teen, understanding parent emotions, and parent self-care. Program recommendations included presenting real-life stories, illustrating both parent and teen perspectives, incorporating creative interactivity, and being concise in content. These recommendations were integrated throughout the prototype design. In the Phase 2 evaluation, parents and providers demonstrated tremendous enthusiasm for the eHealth prototype. They indicated the program was comprehensive, relevant, and useful. Ninety-one percent of parents learned new information; 81% of providers were very likely to prescribe the program. One parent stated, "After my first phone interview, I was wondering why in the world anyone would want to create ANOTHER website about diabetes, when there was so much information out on the web. After seeing this, I say 'BRAVO!' It was nothing like I expected... it's really wonderful!"

While this iterative process of developing and evaluating an eHealth tool was time-consuming and challenging, it resulted in a program well received by targeted users.

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C051

6:00 PM-7:00 PM

DIABETES DISTRESS IN TYPE 1 DIABETES: A LIFESPAN APPROACH

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Individuals with type 1 diabetes may experience distinct challenges at various points during the life span. Younger adults, who are often dealing with hectic work schedules or raising families, may feel overwhelmed by the difficulty of integrating diabetes self-management into their daily lives. They may experience greater distress either in general (i.e., depressive symptoms) or specifically related to their diabetes, which then may hinder their self-management. To understand these links, we examined how specific types of diabetes distress related to adherence and glycemic control. Adults with type 1 diabetes ($N = 55$, M age = 47.64, $SD = 14.15$) had HbA1c tested with an analyzer and completed measures of adherence, depressive symptoms, and diabetes distress (Polonsky et al., 2005). Younger age was associated with greater depressive symptoms and regimen-related diabetes distress. Older age was associated with higher adherence. Regimen-related diabetes distress was associated with greater interpersonal-related and burden-related diabetes distress, and depressive symptoms, and worse adherence and HbA1c. Burden-related diabetes distress was associated with greater interpersonal-related and physician-related diabetes distress, depressive symptoms and HbA1c (all p 's $< .05$). Multiple regressions tested the unique role of regimen-related distress in adherence and HbA1c, above and beyond other types of diabetes distress and age. To examine diabetes, and not general distress, all analyses controlled for depressive symptoms. Participant age was a significant predictor of adherence, but not HbA1c. Burden-related distress was related to higher HbA1c. Regimen-related distress was uniquely related to both worse adherence and HbA1c, above and beyond other types of diabetes distress. Consistent with the literature, these results suggest that diabetes distress, particularly regimen distress, is associated with decreased adherence to self-management. Diabetes distress may be an important consideration for younger adult patients, who may struggle with competing life demands.

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C052

6:00 PM-7:00 PM

FAMILY BEHAVIORS AND ADULTS WITH TYPE 2 DIABETES: WHAT TO TARGET AND HOW TO ADDRESS

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Diabetes-related supportive and obstructive family behaviors (FB) are associated with adult patients' self-care and glycemic control. However, few interventions target obstructive FB (sabotaging and nagging/arguing). Also, existing FB assessments are adapted from instruments developed for adolescents instead of based on formative research with adults. Therefore, we conducted a mixed-methods study with adults with type 2 diabetes (T2D) to explore their experiences with FB and perspectives on engaging family members in their self-care.

Adults with T2D from a Federally Qualified Health Center (N=53) completed open- and closed-ended questions and attended focus groups (n=15) exploring experiences of and perspectives on FB. Predetermined and emergent themes from focus group transcripts were integrated with survey responses to characterize family living situations and who performed specific types of FB.

Participants were 57.3±8.7 years old, 70% African American, 96% incomes Interventions should focus on family communication about T2D and not require specific family structures or family involvement. Findings have implications for intervention modalities and assessing FB.

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C053

6:00 PM-7:00 PM

IDENTIFYING BARRIERS TO DIABETES SELF-MANAGEMENT

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Diabetes self-management is crucial for glycemic control and improved disease outcomes; however, individuals with diabetes must make substantial lifestyle changes to be adherent to recommendations. Adherence involves different factors that impede or promote self-care behaviors; a social learning approach offers an empirically supported mechanism through which to better understand cognitive, behavioral, and environmental barriers to diabetes adherence.

The present study examined barriers to diabetes management among 64 participants ($M_{age} = 52.08 \pm 10.88$ years, 76.6% female, 39.1% ethnic minority) recruited as part of an ongoing diabetes self-management intervention at a federally qualified health center. Barriers were assessed during the first intervention session using Glasgow's Barriers to Self-Care Scale, a self-report measure based on social learning theory in which participants rate how frequently they encounter environmental and cognitive obstacles (higher scores indicate greater frequency). Depression was assessed using the WHO-5; demographics were obtained in clinical interview.

Barriers were most frequently endorsed in the domain of diet adherence ($M = 3.38 \pm 1.32$), followed by exercise ($M = 2.98 \pm 1.17$) and glucose testing ($M = 2.05 \pm 1.03$). Obstacles to medication adherence were encountered less than once per month ($M = 1.66 \pm 1.11$). Consistent with previous literature, depression was associated with an increased perception of barriers both overall ($r = -.37, p = .003$) and in all specific self-management domains ($p < .05$). Gender, education, and race were unrelated to self-management obstacles; older age was associated with fewer perceived barriers to glucose testing ($r = -.30, p = .02$). Notably, barriers did not predict the number of intervention sessions completed.

Complex behavior change, such as that required by diet and exercise regimens, seems most vulnerable to adherence barriers. Identifying and addressing such barriers through individualized intervention may allow for more effective and patient-centered care.

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C054

6:00 PM-7:00 PM

IMPLICATIONS OF PARTNER BEHAVIOR FOR WELL-BEING AMONG TYPE 2 DIABETICS

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Type 2 diabetes is an epidemic and is linked with risk for complications that can be prevented or modified by achieving desired levels of glycemic control that can be reached through effective self-care and management. Romantic partners can impact self-care behaviors and well-being by providing instrumental or emotional support when faced with a problem. Partners may also perceive diabetes as a shared issue and pool their resources in combating problems through a process of collaborative coping. Partners may also hinder self-care and well-being by avoiding diabetes problems or acting in a controlling manner. To examine the impact of partner behavior on well-being, we conducted a study involving 70 couples coping with recently diagnosed (<3 years) type 2 diabetes (61% white, $M_{age} = 54.5$ years). Patients completed self-report measures of self-care, psychological and relational well-being, and partner behaviors (instrumental support, emotional support, communal coping, avoidance, and controlling behavior). Couples then participated in a videotaped discussion about a diabetes problem (which was later coded by independent observers for partner behaviors), after which they reported perceptions of the partner and discussion. Results indicated self-report and observational measures were related for some (e.g., emotional support), but not all (e.g., instrumental support) partner behaviors. Observed and reported instrumental support, avoidance, and controlling behavior were linked with more negative perceptions of the partner and discussion, poorer psychological and relational well-being, worse self-care, and lower self-efficacy (all p 's < .05). Thus, partner behaviors (both reported and observed) were related to patients' self-care, psychological and relational well-being. Findings suggest partners play an important role in diabetes self-care and well-being.

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C055

6:00 PM-7:00 PM

INDEPENDENCE, CONFLICT, AND INTRUSIVENESS OF SELF-MANAGEMENT IN TYPE1 DIABETES: 2-YEAR LONGITUDINAL PATH ANALYSES.

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Path Analyses were performed on cross-sectional data for year1 (Y1) and year2 (Y2) of a longitudinal study of 570 pre-adolescents and adolescents with type1 diabetes, testing relationships among self-reported independence in self-management (IND1 for Y1, IND2 for Y2), Parent-child conflict about diabetes-management (CON1, CON2), Perceived Illness-Intrusiveness (I11, I12), diabetes self-management performance (SM1, SM2), and HbA1c as measure of glycemic control. Cross-sectional analyses for Y1 and for Y2 test relationships among temporally concurrent experience of the constructs. Path analyses then tested longitudinal relationships from Y1 to Y2. Best fitting models for each of Y1 (c^2 ns, CFI=.99, RMSEA=.028) and Y2 (c^2 ns, CFI=.99, RMSEA=.028) suggest a positive relationship between IND1 and CON2 (.30), and I11 and CON2 (.12), while CON1 did not predict IND2, and CON1 showed weak prediction of less I12 (-.11). Only SM1 (.32), CON1 (-.25) and CON2 (-.36) predicted SM2, with concurrent CON2 showing stronger relationship to SM2 than CON1 in previous year. The only variable to predict Y2 HbA1c, other than Y1 HbA1c (.37), was CON2 (.35) in concurrent year.

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C056

6:00 PM–7:00 PM

INTERNAL HEALTH LOCUS OF CONTROL AND HEALTH PROTECTIVE BEHAVIORS AMONG EMERGING ADULTS WITH FAMILIAL RISK FOR TYPE 2 DIABETES

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Health locus of control influences self-care behaviors and glycemic control among people with type 2 diabetes. Specifically, a high internal health locus of control is associated with more diabetes self-care behaviors and lower A1C levels. What is not known is whether or not familial risk for type 2 diabetes affects individuals' internal health locus of control. The purpose of this study was to examine health protective behaviors, perceived susceptibility of developing type 2 diabetes, perceived severity of type 2 diabetes, and internal health locus of control among emerging adults with (n=66) or without a parent/grandparent (n=131) diagnosed with type 2 diabetes. We recruited 197 undergraduate students (86% Caucasian, 66% female, mean age=19±1.6 years old) to participate in this descriptive cross-sectional survey study. Participants completed a family history of type 2 diabetes form, the Summary of Diabetes Self-Care Activities Measure, the Behavioral Risk Factor Surveillance System sugary drinks subscale, risk of illness questions developed by Ranby (three items to assess perceived susceptibility of type 2 diabetes and one item to assess perceived severity of type 2 diabetes), and the Multidimensional Health Locus of Control Scales. Students with a familial risk for type 2 diabetes reported lower internal health locus of control scores ($t(195) = 2.14, p=0.03$) and a higher perceived susceptibility of developing type 2 diabetes ($t(191) = -5.36, p$

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C057

6:00 PM–7:00 PM

PSYCHOSOCIAL CONTRIBUTORS TO DEPRESSION IN HISPANIC PATIENTS WITH UNCONTROLLED TYPE 2 DIABETES

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Background: Diabetes is one of the leading causes of death. Compared to other racial-ethnic groups, persons of Hispanic origin are the most likely to die from diabetes. Comorbid depression is common in diabetes and contributes to poor health outcomes, but there is evidence that social support can mitigate these effects. Hispanics tend to have strong family ties that provide support, yet this support does not consistently lead to better outcomes. Thus, we examined the extent to which psychosocial factors and their effects on depression vary by gender and language-based acculturation. **Methods:** Using Pearson correlations and multiple regression, we examined cross-sectional, baseline associations of depression with perceived support, diabetes-related distress, and other social and personal factors obtained from principal components analysis. Patients were low-SES, English- and Spanish-speaking adults with poor glycemic control ($A1C \geq 8\%$) who were participating in a randomized controlled trial of a culturally targeted intervention for diabetes management. Mean age was 50.9 ± 8.8 years, 9.9 ± 6.6 years with diabetes; 99 (39.9%) were men, and 149 (60.1%) women. **Results:** Women reported less support than men. English-speakers reported more depression than Spanish-speakers. English-speaking women reported the least support and the most depression. When adjusting for age, gender and language, psychosocial factors significantly associated with increased depression included less support received, greater emotional burden, and less ability to socialize or pursue normal activities. **Conclusions:** The social support provided by traditional family and social networks of less acculturated Hispanics may play an important role in lowering the risk of comorbid depression. The quality of interpersonal relationships and ability to continue normal activities may also play an important protective role. More acculturated women may be at greater risk for comorbid depression and interventions should seek to augment their support needs.

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C058

6:00 PM–7:00 PM

ACUTE EFFECTS OF RESISTANCE EXERCISE IN A DEPRESSED HIV SAMPLE: THE EXERCISE FOR PEOPLE WHO ARE IMMUNOCOMPROMISED (EPIC) STUDY.

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Background: Depression is highly prevalent among people living with HIV (PLWH). It can negatively impact quality of life, medication adherence, and clinical progression of the disease. Both aerobic and resistance exercise have exhibited promising results for alleviating depressive symptoms in PLWH; however, this research is outdated and scarce. **Purpose:** This study tested the effect of a single bout of bodyweight resistance exercise on affective valence and activation in PLWH with depressive symptoms. **Method:** Using a within subjects design, 10 participants (6 men, 4 women) ages 33–61 with a Center for Epidemiologic Depression Scale (CES-D) score of ≥ 10 completed two randomized cross-over sessions separated by one week: (1) a 20-minute bout of bodyweight resistance exercise; and (2) a 20-minute informational video control. Affective valence and activation were measured with the Feeling Scale (FS) and the Felt Arousal Scale (FAS), respectively. Both were administered at PRE (minute 0), MID (minute 10), immediately POST (minute 20), and after a 10-minute DELAY (minute 30). Changes were analyzed using repeated measures Analysis of Variance (ANOVA) with significance level set at 0.05. **Results:** Significant differences in affect over time were found between the two conditions, with greater improvements in resistance exercise compared to the control ($F=2.63, p=.05$). Specifically, there were greater improvements from PRE to POST ($t=2.79, p=.01$) and PRE to DELAY ($t=2.58, p=.01$). There were also significant differences in activation between the conditions over time ($F=7.40, p<.001$), with greater positive changes in resistance exercise compared to control from PRE to MID ($t=5.09, p<.001$), PRE to POST ($t=5.09, p<.001$), and PRE to DELAY ($t=2.68, p=.01$). **Conclusion:** This is the first study to show that a single bout of bodyweight resistance exercise has positive effect on affect and activation with PLWH who report having depressive symptoms.

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C059

6:00 PM–7:00 PM

ADHERENCE TO ANTIRETROVIRAL THERAPY AMONG CLIENTS OF WISCONSIN'S LINKAGE TO CARE INTERVENTION: A QUALITATIVE EXPLORATION

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Adherence to antiretroviral therapy (ART) among people living with HIV (PLH) is essential for positive health outcomes and decreased HIV transmission. Wisconsin's Linkage to Care intervention provides intensive, short-term patient navigation and case management services to PLH who are newly diagnosed, post-incarcerated, or at risk of medical care disengagement. Delivered by "Linkage to Care Specialists," the intervention also includes a focus on ART uptake and adherence. Semi-structured qualitative interviews were conducted with 30 clients of the Linkage to Care intervention regarding their experiences with the intervention, and barriers and facilitators of medication adherence. Data were coded using MAXQDA software, and analyzed with a targeted reading of codes regarding medication. Barriers to medication adherence included side effects, dislike of pills, housing instability, cost or insurance difficulties, and privacy concerns. Substance use was also a barrier for many participants, who indicated that they had been discouraged from taking medications while using substances, that substance use decreased their motivation to take medications, or led to forgetfulness. Facilitators to medication adherence included faith in an eventual cure as well as a "one pill" regimen. This medication regimen was highly attractive, especially for individuals who had previously been on more complicated previous regimens. Maintaining a "one pill" regimen also provided motivation for high adherence to avoid the need to switch regimens or add additional pills in the future. Many participants indicated that their Specialists positively affected their medication adherence through navigation of insurance and AIDS Drug Assistance Programs, communicating with medical care providers regarding side effects, and reminders, encouragement and direct social support. Also, some Specialists arranged for medications to be shipped to various locations to preserve participants' privacy or decrease transportation burdens. These approaches encouraged medication adherence among the Specialists' clients, potentially leading to improved health outcomes and reduced transmission risks. Interventions to increase adherence should include focus on the impact of substance use and abuse, and include informational and motivational content, as well as social support.

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C060

6:00 PM-7:00 PM

ADHERENCE TO PRE-EXPOSURE PROPHYLAXIS (PREP) AMONG GAY AND BISEXUAL MEN: PREVALENCE AND PREDICTORS OF MISSED DOSES

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Background: In order for PrEP in the form of once-daily Truvada to be effective, adherence to scheduled doses is necessary. The present study seeks to investigate PrEP adherence in a sample of gay and bisexual men (GBM) not involved in a demonstration project. **Methods:** In a U.S. national sample of 906 HIV-negative GBM, 73 (8.0%) were found to be currently prescribed PrEP. These men provided data on their adherence patterns in the prior 30 and 90 days. **Results:** In total, 60.3% reported not having missed any doses in the prior 30 days. Among those having missed a dose, 89.6% reported missing 3 doses or fewer. Nearly half (39.2%) reported not having missed any in the past 90 days; the majority (78.5%) missed six doses or fewer. A greater proportion of men without a college degree (59.2%) than with (56.5%) had missed a dose ($p=.05$); no significant differences were found for age, income, race/ethnicity (89% white), or relationship status. Forgetting (54.7%) was the most common reason given, followed by being somewhere other than home without their pills (23.8%), and having run out of medication (23.8%). No participants reported missing medication "because of being with a sexual partner". Five participants reported HIV transmission risk behavior either the day before or the day of a missed dose. Participants who had missed at least one dose in the prior 90 days (57.5%) compared to those that hadn't scored significantly higher on the BSI anxiety subscale ($p=.01$). **Conclusions:** This study indicates that GBM taking PrEP on their own volition have relatively high adherence. Given emerging research suggesting that 4 doses a week of Truvada may be sufficient to prevent HIV, participants in this study had little potential for infection in the event of exposure. Future research should be conducted to explore effective ways to help PrEP users remember to take their medication and plan ahead for times when they may not be home.

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C061

6:00 PM-7:00 PM

ASSUMPTIONS OF PARTNER HIV SEROSTATUS AMONG MEN WHO HAVE SEX WITH MEN (MSM) TAKING ANTIRETROVIRAL MEDICATION TO PREVENT HIV

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Background: Advancements in biomedical HIV prevention have demonstrated the efficacy of antiretroviral therapy for HIV prevention, or pre-exposure prophylaxis (PrEP), as a way to prevent HIV in those who engage in condomless sex. Assumptions about partner serostatus may be an important variable in decisions about condom and/or PrEP use. Some MSM attribute (or falsely assume) an HIV serostatus to an unknown status partner by examining physical characteristics of a partner, behaviors of a partner, and/or contextual factors, which then can inform their sexual decision making. We examined attribution of HIV serostatus among MSM taking PrEP in a randomized trial comparing different PrEP adherence strategies. **Methods:** Between 11/2012 and 12/2013, 50 Boston-area MSM enrolled into a two arm PrEP trial. The first arm was a CBT-oriented PrEP-specific adherence intervention, which included four weekly sessions to address barriers and facilitators of PrEP use. The second arm was a time-matched control: sessions provided information about general health and PrEP. Both groups received PrEP and HIV counseling and testing. A 14-item questionnaire asked to what extent participants rely on specific assumptions (He looks healthy, etc.) to attribute HIV serostatus of an unknown serostatus partner. **Results:** Participants were primarily White (94%) and well-educated (64% had completed college), and were similar between study arms. The sum of the attribution of serostatus questionnaire, measured by Likert scale, was significantly lower at the 3-month follow-up ($M = 17.2$, $SD = 14.4$) than at screening ($M = 23.0$, $SD = 13.3$) [$F(1, 40) = 11.10$, $p < 0.005$, $\eta_p^2 = 0.217$], and did not differ by arm. This reduction was maintained with the 3-month and 6-month responses not differing significantly [$F(1, 38) = 0.22$, $p > 0.05$, $\eta_p^2 < 0.01$]. **Conclusions:** These findings suggest that cognitions around attribution of serostatus among MSM can change over time. Natural variability, participating in either arm of the trial, or the experience of taking PrEP may have facilitated a more realistic assessment of partner serostatus. More work to illuminate how PrEP and future interventions may impact thoughts around HIV serostatus attribution appears warranted.

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C062

6:00 PM-7:00 PM

BARRIERS & FACILITATORS TO ART AMONG PATIENTS WHO ARE LOST TO FOLLOW-UP AT AN ART CENTRE IN SURAT, INDIA: A QUALITATIVE STUDY

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Antiretroviral therapy (ART), recommended for people infected with human immunodeficiency virus (HIV), delays a patient's progression to acquired immunodeficiency syndrome (AIDS) and reduces the transmission of HIV to others. Despite the provision of free ART in India, more than 15% of patients do not adhere to their ART regimen. We examined barriers and facilitators to ART Centre attendance and ART adherence among patients on ART identified as being lost to follow-up at New Civil Hospital ART Centre in Surat, India. Twenty-five patients (mean age: 38.3 years; 64% females; 36% widowed) who underwent treatment at the ART Centre in Surat and discontinued ART for more than 3 months participated in a semi-structured in-depth interview, in either Hindi or Gujarati. Interviews were audio recorded and transcribed verbatim. Interview data were analyzed using content analysis. Results indicated that individual and structural barriers were the major factors associated with being lost to follow-up. Barriers included transportation expense, ART side effects, ART Centre waiting times, traveling, and work and parenting responsibilities. Patients also expressed emotional concerns, including fears of HIV disclosure, depression, hopelessness, and suicidal ideation. Discrimination and stigma were also barriers to ART. Social and family support, perceived health benefits of ART, and patient-friendly services provided by the ART Centre facilitated adherence to recommended ART. Improving patients' ability to both overcome barriers and obtain support in attending monthly ART Centre visits and providing patient-centered health care are essential to ensuring that Indian patients adhere to ART. Future research should design and evaluate interventions to reduce individual and structural barriers to bolster recommended ART adherence.

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C063

6:00 PM-7:00 PM

BEHAVIORAL INTERVENTIONS INTEGRATING ALCOHOL AND SEXUAL/HIV RISK BEHAVIORS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Alcohol use contributes to the transmission of HIV. Therefore, interventions have been developed to address both alcohol use and sexual risk behaviors. This meta-analysis examined the efficacy of behavioral interventions that integrated alcohol and sexual/HIV risk reduction and measured alcohol use and sexual risk behaviors. **Methods:** Comprehensive electronic database searches located 36,368 studies with relevant keywords; of these, 21 examined an individual-level alcohol/HIV intervention, evaluated both alcohol use and sexual risk behavior (e.g., sexual partners, condom use), included a control condition, and were available through December 2014. Independent raters coded participant, design and methodological characteristics, and intervention content. Weighted mean effect sizes (ES), using random-effects models, were calculated; positive ES indicated reduced alcohol use and sexual risk behaviors. **Results:** The study samples included 9,551 participants ($M=25$ years of age; 38% women). Compared to controls, intervention participants reduced their sexual risk behaviors across a number of measures. ES magnitudes were small (e.g., sexual activity: $d_t=0.20$, 95% $CI=0.01$, 0.39; $k=6$; sexual partners: $d_t=0.08$, 95% $CI=0.02$, 0.17; $k=8$; condom use events: $d_t=0.07$, 95% $CI=0.01$, 0.14; $k=15$). There were no significant differences between the intervention and controls on any alcohol outcome with one exception: heavy drinking ($d_t=0.48$, 95% $CI=0.08$, 0.89; $k=4$). **Conclusion:** Interventions integrating alcohol and sexual/HIV risk reduction lead to reductions in sexual risk behaviors and heavy drinking. Future research should determine the optimal methods for integrating alcohol interventions with sexual risk reduction content.

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C064

6:00 PM-7:00 PM

BLACK TRANSGENDER WOMEN EXPERIENCE INCREASED SOCIO-DEMOGRAPHIC HIV RISK FACTORS COMPARED TO BLACK MEN WHO HAVE SEX WITH MEN

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Recent research suggests that Black transgender women (BTW) may experience greater risk for HIV than Black men who have sex with men (BMSM). However, studies focused on sexual risk taking tend to include BTW with BMSM, overlooking potentially important differences in HIV risk factors between these two groups. The literature examining BTW exclusively has found high rates of socio-demographic and sex related risks for HIV. Although this work suggests that BTW may be at higher risk for HIV than BMSM, data on this area of research are very limited. By utilizing a syndemic framework, the current study examined if BTW were at higher risk for experiencing multiple socio-demographic and sex risk factors for HIV as compared to BMSM. A total of 865 Black participants were recruited from the Atlanta, GA area, with 59 identifying as BTW and 806 as BMSM. Participants completed a survey assessment utilizing Audio Computer Assisted Interviewing software. The socio-demographic and sex risk factors collected included participants' income, employment status, homelessness, polysubstance use, experience of intimate partner abuse, engaging in transactional sex, and having ever been tested for HIV. Participants were coded as either experiencing each HIV risk factor or not, and multiple logistic regression models were used to assess the relationship between the number of HIV risk factors and BTW/BMSM identity. We calculated odds ratios (OR) for BTW/BMSM identity for an increasing number of HIV risk factors, with experiencing 0, 1, or 2 risk factors used as the reference group. Overall, with each increase in an HIV risk factor, individuals were significantly more likely to be BTW [OR = 4.57 (1.03, 20.35) for 3 factors; OR = 8.35 (1.93, 36.12) for 4 factors; OR = 8.35 (1.85, 37.66) for 5 factors; OR = 17.48 (3.64, 83.87) for 6 and 7 factors]. These findings suggest that BTW are significantly more disenfranchised than BMSM, providing important insight into the environmental context in which BTW live.

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C065

6:00 PM-7:00 PM

BRIEF INTERNET-BASED INTERVENTION REDUCES SEXUAL TRANSMISSION RISK BEHAVIOR AMONG HIV+ MSM SEEKING SEX PARTNERS ONLINE

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For multiple reasons, including convenience and anonymity, many HIV+ men who have sex with men (MSM) meet their sexual partners online, which can also include engaging in risky sexual behavior. The purpose of the current study was to test the efficacy of our newly developed exclusively web-based sexual risk reduction intervention designed for HIV+ MSM who have used the Internet to meet sex partners. We successfully recruited 167 participants (mean age = 44.7; 42.5% non-White) and randomized them to either our brief (4-sessions, across 2 weeks) HIV Internet Safety (HINTS) intervention (n=85) or to our Healthy Living control condition (n=82). We assessed all participants at baseline and 6-months after the intervention on incidence of condomless anal sex with either serodiscordant (HIV-/serostatus unknown) or seroconcordant (HIV+) male partners. Results showed that participation in the HINTS intervention significantly reduced incidence of condomless anal sex with serodiscordant partners at follow-up (*IRR*: .373; 95%*CI*: .207-.672; *p*=.001). Also, participation in the HINTS intervention significantly predicted increased incidence of condomless anal sex with seroconcordant sex partners at follow-up (*IRR*: 2.142; 95%*CI*: 1.268-3.617; *p*=.004). These results demonstrate that our brief HINTS intervention reduced sexual risk behavior with HIV- and unknown partners, an outcome conferring the highest risk for HIV transmission; while concurrently increasing condomless anal sex with HIV+ partners, an outcome demonstrating change in partner selection strategies (i.e., serosorting behavior). Future work should continue developing Internet-based interventions to help increase the safety of HIV+ individuals seeking their sex partners online.

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C066

6:00 PM-7:00 PM

CONSIDERING COMORBIDITIES AND QUALITY OF LIFE AMONG OLDER ADULTS LIVING WITH HIV WHO REPORT MEDICATION NON-ADHERENCE

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A growing body of research attests to the increased disease burden experienced by older adults living with HIV (OALWH, 50 years or older), with studies reporting that most OALWH are dealing with at least one other major health condition in addition to HIV, and an average of five non-HIV medications. Yet the impact of whether increased comorbidity burden on quality of life and links to outcomes such as depression, substance use problems, and HIV medication non-adherence, have only received attention in a small number of studies which have yielded mixed findings. The current study aimed to explore the impact of comorbidities on quality of life and to assess both as predictors of depression, substance use problems, and medication adherence self-efficacy among a sample of substance-using OALWH reporting sub-optimal levels of medication adherence. The sample included 114 NYC-based men and women (mean age 54.5 years), of whom 45.8% identified as gay or bisexual males, and 80.7% identified as Black. All participants reported less than 90% adherence to their HIV medications in the past 30 days. In path model analyses, controlling for age, race/ethnicity, sexual and gender identity, income, and relationship status, an indirect effect of comorbidities, through quality of life, was observed for all three outcomes. In other words, to the extent that comorbidities impair quality of life, outcomes such as depression, substance use problems, and medication adherence self-efficacy are also impacted. Accordingly, efforts to maximize improvements to quality of life and minimize the impact of comorbidities may yield improve mental and behavioral health outcomes among this already-burdened and underserved population.

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C067

6:00 PM-7:00 PM

CORRELATES OF INTENTIONAL AND NON-INTENTIONAL ADHERENCE DIFFICULTIES TO ANTIRETROVIRAL THERAPY AMONG HIV+ OUTPATIENTS

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Adherence to antiretroviral therapy (ART) is a central feature in the clinical management of HIV, but past research does not distinguish between factors that contribute to intentional and non-intentional adherence difficulties (e.g., "forgetting"). We sought to (a) characterize levels of intentional non-adherence and (b) examine demographic, health status, and attitudinal correlates of general adherence difficulties and adherence lapses that are patient initiated. Participants (*N* = 150, 41% female, *M* age = 44) completed both a global adherence measure, as well as a measure of intentional non-adherence assessed across four domains: (a) treatment uptake—declining to begin taking ART when recommended by a medical provider; (b) treatment interruption—discontinuing one or more ART medications without telling a medical provider; (c) medication vacation—taking a break of one or more days from at least one ART medication; and (d) medication changes—patient initiated changes to ART regimens. Overall, 66% of participants reported at least one form of intentional non-adherence. Of these, 19% reported one or more instances of refusing to initiate HIV treatment; 45% reported engaging in treatment interruptions; 40% reported taking one or more medication "vacation"; and 59% reported making medication changes. Global adherence difficulties were associated with having higher daily pill counts, *t*(1,115) = -2.55, *p* = .01, less education, *t*(1,148) = 2.99, *p* < .01, and lower levels of adherence self-efficacy, *t*(1,137) = 2.66, *p* < .01. In contrast, patient initiated medication changes were associated with having more HIV symptoms (*r* = .17, *p* < .05), more permissive attitudes about the necessity for ART (*r* = .27, *p* < .01), and greater concern about adverse effects of treatment (*r* = -.24, *p* < .01). In this sample of HIV+ outpatients, intentional non-adherence to ART is common and may contribute to poorer treatment outcomes. Adherence intervention should include a focus on attitudinal barriers linked to intentional non-adherence to optimize health outcomes for people living with HIV.

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C068

6:00 PM-7:00 PM

ETHNIC COMPARISONS IN HIV TESTING BEHAVIOR AND ATTITUDES AMONG BLACK AND WHITE COLLEGE STUDENTS

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Background: Both young adults and ethnic minority youth suffer a disproportionate burden of HIV compared to the general population. In 2010, while youth ages 13-24 represented 17% of the United States population, they accounted for an estimated 26% of new HIV infections (CDC, 2012). Of all new HIV infections among youth, Black youth continue to be disproportionately affected as they accounted for 57% of new infections in 2010, while White youth accounted for 20% (CDC, 2014). Receiving an HIV test is the only effective means of knowing one's HIV status, and is one of the most important factors in HIV prevention. **Objective:** This study examined ethnic differences in predictors of HIV testing among college students. **Participants/Method:** Data collected from a sample of 743 Black and White students aged 18-24 were analyzed. Students completed the American College Health Association-National College Health Assessment II (ACHA-NCHA II) (2012) and answered questions pertaining to sexual behavior, sexual health outcomes, HIV testing, and attitudes toward testing. **Results:** Black students had more positive attitudes toward testing, and were more likely to have received a recent HIV test or to have ever been tested for HIV when compared to White students. Predictors of HIV testing differed among ethnic groups. A greater number of sexual partners and more positive HIV testing attitudes were significant predictors of ever being tested for HIV among White students, while relationship status emerged as a unique predictor of testing among Black students. Among both White and Black students, older age and history of ever having had sex were significant predictors of HIV testing. **Conclusion:** Factors that predict HIV testing may differ across racial/ethnic groups. Ethnic differences in predictors of testing should be considered in the development and tailoring of health communication and effective HIV testing interventions for college students.

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C069

6:00 PM-7:00 PM

FOOD INSECURITY IS ASSOCIATED WITH NEUROCOGNITIVE IMPAIRMENT AMONG INDIVIDUALS LIVING WITH HIV

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Background: Food insecurity contributes to disparities in HIV transmission, retention in HIV care, and HIV-related morbidity and mortality. While food insecurity is related to cognitive impairment in the general population, research has not yet examined whether food insecurity contributes to HIV-associated neurocognitive disorders, which affect 50% of individuals living with HIV. We hypothesized that food insecurity would have a stronger effect on neurocognitive impairment in the HIV-positive group compared to the HIV-negative group. **Methods:** The sample included 62 HIV-positive and 36 demographically matched HIV-negative participants recruited from infectious disease clinics and community advertisements. Participants completed interviews, surveys, and a neuropsychological battery. Food insecurity was assessed with an adapted version of the US Household Food Security Scale and scores were categorized into none, moderate, and severe. We conducted chi-square tests, T-tests, and analyses of variance to examine the impact of HIV status and food insecurity on both global and domain-specific neurocognitive functioning. **Results:** The sample was 36% female, 86% African American, and on average 46 years old (SD=11) with 14 years of education (SD=2). Level of food insecurity did not differ across HIV status. Food insecurity was negatively associated with verbal fluency ($F(2,97)=5.22, p<.01$). Participants with HIV scored significantly lower on the domains of executive function ($t=2.78, p<.01$) and attention ($t=2.75, p<.01$). The interaction effect of HIV status and level of food insecurity was significant at $p<.05$ for information processing ($F(2,97)=3.64$), executive function ($F(2,97)=3.19$), motor function ($F(2,97)=3.89$), and global function ($F(2,97)=4.11$). For the interaction effect, HIV-positive participants who were food insecure had the lowest neurocognitive function as compared to the HIV-positive participants who reported no food insecurity. Food insecurity was not associated with neurocognitive functioning for the control group. **Implications:** Interventions aimed at preventing or ameliorating HIV-related cognitive impairment may benefit from improving participants' food security.

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C070

6:00 PM-7:00 PM

ANTI-DEPRESSANT USE AMONG US-BORN AND FOREIGN-BORN ADULTS: AN ANALYSIS OF THE 2010-2013 NATIONAL HEALTH INTERVIEW SURVEY

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Background: Previous studies have explored potential factors that could explain greater risk of depression among immigrants, yielding mixed results. Some groups seem to show improvement over time, while others experience poorer mental health, particularly depression, the longer they reside in the U.S. However, few studies have examined the relationships between place of birth and anti-depressant use in the U.S. **Methods:** In this study, we analyzed data from the 2010-2013 National Health Interview Survey (NHIS), an in-person household survey assessing health care utilization and access and health-related behaviors in the U.S. We used weighted multiple logistic regression to estimate the likelihood of taking anti-depressants among US- and foreign-born individuals, adjusting for potential covariates (i.e., age, sex, education, alcohol use). **Results:** Of the sample, (n=47,381), 51% were female, 19.6% were foreign-born. The mean (±SEM) age of the participants was 48.3 (±0.03) years. The majority of participants were non-Hispanic White (61.8%), followed by Hispanic (17.8%), non-Hispanic Black (15.3%), and Asian (6.1%). The unadjusted OR of using anti-depressants among foreign-born adults, compared to US-born adults, was 0.35 (95% CI: 0.31-0.41, $p<0.01$). Multivariate adjusted regression analysis, adjusting for age, sex, race, education, alcohol, smoking, body mass index, diabetes, coronary heart disease, and hypertension, showed that foreign-born adults were less likely to use anti-depressants compared to US-born adults (OR=0.41, 95% CI: 0.35-0.48, $p<0.01$). **Conclusion:** These results suggest significantly lower anti-depressant use among foreign-born adults, which was independent of respondents' sex, education, alcohol, smoking, body mass index, and disease condition. Future studies should explore the influence of place of birth on anti-depressant use and mental healthcare treatment in the United States.

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C071

6:00 PM-7:00 PM

ASSOCIATIONS BETWEEN CAM USE AND QOL AMONG LATINA BREAST CANCER SURVIVORS

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Background: Complementary and alternative medicine (CAM) is used widely in cancer populations, particularly among women, and has shown promise to address Quality of Life (QoL) outcomes. Few studies to date have evaluated CAM use and associations with QoL among Latina breast cancer survivors. The goal of the current research was to evaluate associations between CAM and primary QoL outcomes in Latina breast cancer survivors. **Methods:** Latina survivors were recruited at 4 community sites in Washington, DC, New York, NY, and San Jose, CA. We administered a telephone survey in Spanish and English including demographics, Patient-Reported Outcome Measurement Information (PROMIS) Domains: physical function, anxiety, depression, fatigue, satisfaction with social roles, and a CAM activities questionnaire that included yoga, meditation, massage, and herbal supplements. Compensation was a \$10 gift card. **Results:** Of 108 Latina breast cancer survivors, 39 (36%) endorsed CAM use with frequencies from once or more per week (19%) to less than once a month (4%). Greater frequency of CAM use was positively associated with physical functioning, ($r=.26, p=.007$), satisfaction with social roles ($r=.17, p=.07$) and education, ($r=.23, p=.02$). When comparing survivors who endorse any CAM use with survivors who reported no CAM use, those who used CAM reported better physical functioning, ($r=.26, p=.005$), satisfaction with social roles, ($r=.23, p=.01$), and less depression ($r=-.20, p=.03$). There were null results for the remaining PROMIS domains of anxiety and fatigue. In regressions when controlling for age at diagnosis, education and employment, any CAM use significantly predicted depression ($\beta=-0.22, p=.02$) and physical functioning ($\beta=.24, p=.005$) but not satisfaction with social roles ($p=.26$). **Conclusion:** CAM use is positively associated with higher education and may be important for specific QoL outcomes among Latina breast cancer survivors. Future research can explore covariates and these associations over time.

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C072

6:00 PM-7:00 PM

BEHAVIORAL BIOMARKERS ON A MOBILE SENSING PLATFORM PREDICT CLINICALLY VALIDATED SYMPTOMS OF MENTAL HEALTH DISORDERS

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Background Mental health disorders are the leading cause of disability, affecting 18.6 percent of the US adult population. The National Institute of Mental Health's Strategic Plan emphasized the critical need for real-time tracking and behavioral biomarkers of mental health symptomatology. Mobile sensing platforms have potential to aid in recognizing symptoms of mental illness; however, early evidence of the potential value of this approach has not been clinically validated. We sought to determine whether predictive models of clinical symptomatology for PTSD and depression can be derived using Cogito's HIPAA-compliant, scalable mobile sensing platform that collects mobile digital trace data. **Method** 73 participants who reported at least one symptom of PTSD or depression (67% male, 48% NHW, 33% Veteran status) completed a 12-week field trial of a smartphone application used to passively collect raw behavioral data. Clinical symptoms were measured through validated structured clinical interview assessments (Structured Clinical Interview for Disorders) with a licensed clinical social worker. A combination hypothesis and data driven approach was used to derive the symptom models. Predictive performance (AUC) of the logistic regression models was computed under a 10-fold cross validation context. **Results** Models were predictive of clinical symptomatology (AUC modeling depressed mood=.72; fatigue=.75; avoidance=.83; diminished interest=.81). **Conclusions and Relevance** Passively collected behavioral biomarkers based on mobile trace data embedded within a highly scalable cloud computing architecture accurately predicted clinically-validated symptoms of depression and PTSD. The use of mobile sensing platforms to assess behavioral biomarkers can allow individuals, clinicians, and researchers to track episode onset, symptom progression, and relapse.

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C073

6:00 PM-7:00 PM

BRIEF GATEKEEPER TRAINING FOR SUICIDE PREVENTION IN AN ETHNIC MINORITY POPULATION: A CONTROLLED INTERVENTION

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Background: Suicide is a critical public health problem around the globe. Asian-American populations are characterized by elevated suicide rates and a tendency to seek social support from family and friends over mental health professionals. Gatekeeper training programs have been developed to train frontline individuals in assisting an at-risk person to utilize mental health treatment resources. **Methods:** We adapted an evidence-based gatekeeper training into a two-hour, multi-modal and interactive event for Japanese-Americans and related stakeholders. Then we evaluated the intervention compared to an attention control using mixed methods. **Results:** A sample of 106 community members participated in the study. Intervention participants (n=85) showed significant increases in all three types of intended gatekeeper behavior, all four measures of self-efficacy, and both measures of social norms relevant to suicide prevention, while the control group (n=48) showed no significant improvements. Additional results showed significantly higher satisfaction and no adverse experiences associated with the gatekeeper training. The separate collection of qualitative data, and integration with the quantitative survey constructs confirmed and expanded understanding about the benefits of the intervention. **Conclusions:** A brief, multimodal gatekeeper training is efficacious in promoting positive gatekeeper behaviors and self-efficacy for suicide prevention in an at-risk ethnic minority population of Japanese Americans.

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C074

6:00 PM-7:00 PM

COMPARING RATES OF MENTAL HEALTH MEASUREMENT ACROSS VHA TREATMENT SETTINGS

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Measurement-based care is an evidence-based approach to practice in which data are routinely collected to inform treatment decisions and monitor outcomes. Though use of measurement-based care principles is highly consistent with clinical practice guidelines for common mental health (MH) conditions, limited uptake has been identified as a contributor to the quality gap in MH care. In the Veterans Health Administration (VHA), MH providers have access to instruments to facilitate measurement-based care in a software suite embedded in the electronic medical record. Our prior work found limited use of depression, PTSD, and anxiety measures among integrated primary care (IPC) providers. Though we hypothesized that setting characteristics (e.g., time constraints) might impact measurement rates in IPC, we were unable to make specific comparisons to other settings. This presentation will summarize results of a retrospective study that compared the frequency and types of standard measurement employed across the MH treatment spectrum, including IPC, general outpatient MH, and outpatient PTSD and substance use disorder (SUD) settings. Data were obtained from the medical records of 28,376 veterans who received MH services (243,528 total encounters) in any of 34 VHA medical facilities or outpatient clinics in Upstate New York in 2014. Though alcohol screening was common (80-86% of patients per setting), screening for other conditions, such as depression (38-48%) and PTSD (17-36%) was notably less frequent. While significant differences were found in rates of measurement across settings, overall rates were low. Whereas measurement of SUDs (2.5-32.3% of patients), depression (8.2-20.3%), and PTSD (7.9-24.7%) was most common, measurement of anxiety (1.4%), personality (.8-1.6%), and health/disability (.1-.8%) were among the least. These findings support previous research which has demonstrated low use of standard measurement in MH. Discussion will highlight patient and systems factors associated with measurement, and potential provider and systems strategies to improve rates of measurement for MH conditions.

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C075

6:00 PM-7:00 PM

CORRELATES OF NON-PSYCHOTROPIC NON-ADHERENCE IN INDIVIDUALS WITH BIPOLAR DISORDER

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Objective: Individuals with bipolar disorder (BD) have poor adherence to psychotropic medications, high rates of medical illness, and premature mortality. This descriptive analysis of screening and baseline data from an ongoing clinical trial examined the correlates of non-adherence to non-psychotropic medication in 73 non-adherent BD patients with medical morbidities. **Methods:** Inclusion criteria included missing at least 20% of prescribed BD medication based on the self-reported Tablet Routines Questionnaire (TRQ) for past week or past month. Participants were measured on percentage of days with missed doses for non-psychotropic medications. For those prescribed more than one non-psychotropic medication, an average TRQ was calculated. Clinical symptoms were measured with the Montgomery-Asberg Depression Rating Scale (MADRS) and the Brief Psychiatric Rating Scale (BPRS). **Results:** Mean age of the sample was 48.08 ± 8.04, mean number of years with BD was 28.55 ± 10.21, and mean years of education was 12.01 ± 1.87. The majority of the sample was female (73%), African-American (72%), and had a primary language of English (95%). Mean number of BD medications was 1.48 ± .82 and mean number of non-psychotropic medications was 3.18 ± 1.72 with a range of 5. The average TRQ for non-psychotropic medication for past week was 43.73% ± 31.19% and for past month was 39.48% ± 28.94%. Mean MADRS was 19.90 ± 8.82 and mean BPRS was 36.79 ± 7.19. The number of BD medications prescribed positively correlated ($r_s = .287$, $p=.015$) with TRQ for non-psychotropic medication in the past month. MADRS ($r_s = .279$, $p=.017$) and BPRS ($r_s = .293$, $p=.012$) were positively correlated with TRQ for non-psychotropic medication in the past week. Number of years with BD negatively correlated with TRQ for non-psychotropic medication in the past month ($r_s = -.241$, $p=.044$). **Conclusions:** Among patients with BD and medical comorbidities, being on more BD medications, having more severe BD symptoms, and having BD for a shorter period of time correlated with worse adherence to prescribed non-psychotropic medication.

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C076

6:00 PM-7:00 PM

EARLY LIFE SOCIOECONOMIC STATUS AND ADULT HEALTH: THE ROLE OF POSITIVE AND NEGATIVE AFFECT

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Early life socioeconomic status (SES) is thought to play a prominent role in explaining health disparities in adulthood. Positive and negative affect are hypothesized mechanisms linking early life SES and adult health. The present study sought to evaluate associations between early life SES, self-reported positive and negative affect, virus specific pre-challenge antibody titers, and resistance to infection among a sample of 334 adults exposed to a rhinovirus. A moderated mediation model was analyzed using the PROCESS macro (Hayes, 2013). Early life SES was associated with cold incidence through positive affect, but not negative affect. Furthermore, if previous exposure to the challenge virus was high, participants were resistant to infection regardless of early life SES; however, when pre-challenge antibody titers were average or low, early life SES was an important predictor of susceptibility to a cold virus. Such findings provide further support for early life SES being an important variable associated with adult health, and that self-reported positive affect may be an underlying mechanism.

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C077

6:00 PM-7:00 PM

EFFECTS OF COMMUNICATION AND DECISION-MAKING ON PSYCHOLOGICAL WELL-BEING IN MARRIED OLDER ADULTS

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Background: Marriage has been consistently associated with better physical and mental health; but less is known regarding specific mechanisms of how marriage impacts health, specifically psychological well-being. Psychological well-being is a complex construct that has been conceptualized to include factors of (1) autonomy, (2) environmental mastery, (3) personal growth, (4) positive relation with others, (5) purpose in life, and (6) self-acceptance. One pathway that may operate as a link between marital status and these elements of psychological well-being may be effective couple communication and decision making. **Methods:** We examined psychological well-being, couple communication and decision-making using public data obtained from the Midlife in the US (MIDUS) study, a longitudinal study that included a nationally representative sample of individuals aged 50 or older (n=3,487). Confirmatory factor analysis and structural equation modeling using MPlus were conducted to test our proposed model. Psychological well-being was represented by six observed variables. Descriptive statistics were conducted using SPSS. **Results:** Average age of respondents was 53.69 years old; 51.8% were male; most were educated (63%), and white (94.2%). There was good model fit to the data (RMSEA=0.089; CFI=0.955; SRMR=0.030) suggesting that more frequent couple communication ($\beta = -0.097$ with 95% CI = -0.145, -0.048; $p < 0.001$) and more frequent couple joint decision-making ($\beta = 0.219$ with 95% CI = 0.172, 0.267; $p < 0.001$) had a significant positive influence on well-being. **Conclusions:** Marriage is associated with better mental health. Frequent couple communication as well as joint decision-making may act as a pathway to increase psychological well-being in older individuals.

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C078

6:00 PM-7:00 PM

EXAMINING THE EFFECT OF INTEGRATIVE BODY-MIND-SPIRIT MODEL ON QUALITY OF LIFE AND PRURITUS MANAGEMENT FOR PEOPLE WITH PSORIASIS

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Background: Itch and pain experience for people with psoriasis can result in poor quality of life (QoL) including irritating skin condition, emotional distress and psychosocial dysfunction. Integrative Body-Mind-Spirit (IBMS) is a psychosocial intervention model that is found to be effective in improving the holistic well-being of various kinds of participant. This study aims to investigate the effectiveness of IBMS in improving dermatology-related quality of life and pruritus condition of people with psoriasis. **Method:** 39 adults suffering from mild to moderate grade of psoriasis were recruited to attend six 3-hour weekly intervention group sessions developed based on IBMS Model. Outcome measures including Skindex29, Dermatology Quality of Life Index (DLQI), Patient Health Questionnaire (PHQ9), General Anxiety Scale (GAD7), Psoriasis Disability Index (PDI), 5D Itch Scale (SDIS) and Visual Analogue Itch Score (VASI) were assessed before (T0) and after intervention (T1). Paired t-tests were conducted to compare the changes between two time points. **Result:** At baseline, participants have shown moderate to severe problem in maintaining QoL based on scoring standard of Skindex29 [overall 42.6 (SD=22.7), emotion 46.2 (SD=26.3), symptom 41.3 (SD=26.3), function 40.4 (SD=24.2)] and DLQI [9.6 (SD=5.8)], and with mild problem based on PHQ9 [7.1 (SD=5.5)] and GAD7 [5.6 (SD=5.1)]. Paired t-test (T1-T0) showed that there were significant improvements in Skindex29 [overall 95% confidence interval (CI): -14.92 (SD=16.22), $t=-5.75$, $p < .001$, emotion 95% CI: -15.26 (SD=19.29), $t=-4.94$, $p < .001$, symptom 95% CI: -11.67 (SD=16.22), $t=-4.49$, $p < .001$, function 95% CI: -16.41 (SD=17.64), $t=-5.81$, $p < .001$], DLQI [95% CI: -2.92 (SD=3.48), $t=-5.24$, $p < .001$], PHQ9 [95% CI: -2.33 (SD=4.41), $t=-3.31$, $p=.002$], GAD7 [95% CI: -2.05 (SD=3.95), $t=-3.25$, $p=.002$], PDI [95% CI: -3.87 (SD=5.55), $t=-4.35$, $p < .001$], SDIS [95% CI: -2.26 (SD=2.58), $t=-5.46$, $p < .001$] and VASI [95% CI: -1.39 (SD=2.17), $t=-3.98$, $p < .001$]. Skindex29 score was improved from 'moderate/severe' to mild level, and PHQ9 from mild to minimal level. **Conclusion:** Result showed that IBMS intervention could improve dermatological-related quality of life and pruritus condition of people with psoriasis in terms of physical, emotional and psychosocial spheres.

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C079

6:00 PM-7:00 PM

FACTORS ASSOCIATED WITH SUICIDALITY AMONG TEXAS COLLEGE STUDENTS

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Suicide is the second leading cause of death on college campuses. The purpose of this study is to determine the factors related to suicidal ideation and suicide attempts among a statewide sample of college students. The 2013 Texas Survey of Substance Use among College Students (N=11,164; 60% female, 85% White) was a multi-stage cluster designed study, representing undergraduates ages 18 to 26 public and private universities, colleges, and community colleges across the state of Texas.

Outcomes were past year suicidal ideation and suicide attempt. Covariates included sociodemographics (i.e., gender, race/ethnicity, parent education), academic variables (i.e., grade point average, skipping class), behavioral variables (past month substance use, number of sexual partners in the past year, time spent online), mental health variables (depressive and anxiety symptoms, ever being prescribed psychotropic medication), and campus contextual factors. Descriptive statistics and two logistic regressions were run using SAS 9.4. Multiple imputation was used to retain all cases.

Over six percent of students had thought about suicide in the past year and a little over one percent had attempted suicide in the past year. All variables except for parent education and past month alcohol use were correlated with either suicidal ideation or suicide attempt. Grade point average, skipping class, past month drug use, perceptions of suicide, underage drinking, and heavy drinking being problems on campus, depressive symptoms, and lifetime history of psychotropic medication were all associated with past year suicidal ideation in the regression model. However, the only variables related to past year suicide attempt were depressive and anxiety symptoms and the perception that suicide was a problem on campus.

Very few factors were associated with past year suicide attempts, but both academic and behavioral factors were associated with past year suicidal ideation. Future efforts to reduce suicidality among college students should include campus-wide partnerships to identify those at highest risk.

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C080

6:00 PM-7:00 PM

FACTORS THAT INFLUENCE HEALTH BEHAVIOR ADOPTION AMONG OLDER LATINO CAREGIVERS

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Alzheimer's disease (AD) and related dementia may affect 1.3 million people by 2050, and nearly 70% of people with AD live at home. Caregivers report high levels of stress and burden, impacting their health. The purpose of this study was to (1) describe health behavior adoptions; (2) barriers to adoption; (3) support needed in order to engage in health behaviors; (4) and health behaviors adoptions desired among Latino caregivers. Participants were 14 Latino caregivers, aged 50 years and older, who had been caring for a relative with AD or related disorder, at least 4 hours per day, for at least 6 months. Interviews were conducted in English and Spanish about the caregiver role, family and social support, and health behaviors. Interviews were transcribed, translated, coded, and directed content analysis was conducted. Of the 14 participants, ten caregivers were female, average age was 61 years old, and 50% reported medium income. Several themes were noted: Caregivers reported health behaviors (1) as walking as a distraction, walking with the care recipient, and window shopping. They also cited healthy eating, taking vitamins, talking to friends, going to church, and relaxing strategies. Most barriers reported to engaging in health behaviors (2) were related to the care recipient, being the primary caregiver, that care recipient could not be left alone, lack of support to share caregivers' responsibilities, and not having financial means to afford hiring assistance. Other barriers reported were health issues, work responsibilities, and lack of motivation. In order to engage in more/other health behaviors (3), caregivers cited the need for a housekeeper, or any assistance to take care of care recipient, resulting in extra time to participate in activities. They would want to engage in more walking activities, reading, talking to friends, cultural activities, helping other people, and eating healthier (4). Future interventions should consider caregivers' barriers and desired activities in order to develop a sustainable way of support.

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C081

6:00 PM-7:00 PM

GENDER DIFFERENCES IN INFLUENCES OF CHILDHOOD TRAUMA ON INTIMATE TRUST AND INTERLEUKIN-6 OF PERSONS WITH DEPRESSIVE SYMPTOMS

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Background: Childhood trauma as a potent risk factor for developing depression in adulthood affects intimate trust and also contributes to a pro-inflammatory state. Female gender has been found to further increase vulnerability for depression. This study aims to test whether childhood trauma is associated with dysregulation of inflammatory system as well as reduced intimate trust, and also explore role of gender. **Methods:** 194 persons who were engaging in a close relationship were screened by Center for Epidemiologic Studies Depression Scale (CES-D) and recruited from the community. Childhood trauma questionnaire, trust scale (TS) and hospital anxiety and depression scale (HADS) were measured as well as interleukin-6 (IL-6) as an inflammatory marker. Correlation analyses were conducted for male and female separately. **Results:** Mean age was 56.3 (SD=8.1). The majority were female (71.6%) and male participants were older [58.4 (9.3) vs 55.5 (7.5), $p=.027$]. For younger female (Age < 60), sexual abuse (SA) score was positively associated with anxiety ($r=0.329$, $p=.001$) and depression scores ($r=0.198$, $p=.049$); while for younger male (<60), depression score was positively associated with physical neglect (PN) ($r=0.388$, $p=.037$) and emotional neglect (EN) ($r=0.431$, $p=.019$). Interestingly, we found different patterns in the associations of childhood trauma and intimate trust between male and female. TS was negatively associated with PN ($r=-0.448$, $p=.004$), EN ($r=-0.510$, $p=.001$) for older female (≥ 60), and with SA ($r=0.313$, $p=.002$) for younger female, but was positively associated with physical abuse ($r=0.431$, $p=.028$) and emotional abuse ($r=0.465$, $p=.017$) for older male. In addition, there was positive association between IL-6 level and trauma scale for male ($r=0.351$, $p=.014$), but not for female ($r=-0.022$, $p=.829$). IL-6 level was negatively associated with CES-D score ($r=-0.328$, $p=.023$) and HADS-anxiety score ($r=0.307$, $p=.034$) for male. No any significant association was found in female. **Conclusion:** Psychological distress was significantly associated with sexual abuse for female and physical/emotional neglect for male. Gender differences in the influences of childhood trauma on intimate trust and immune response were found. Thus, clinical care for persons with childhood trauma may need be adjusted by gender accordingly.

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C082

6:00 PM-7:00 PM

ILLNESS IDENTITY IN INDIVIDUALS WITH A CHRONIC ILLNESS

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Illness Identity in Individuals With a Chronic Illness

Background. To understand why some patients adjust well to chronic illness, whereas others fail to do so, the present talk focuses on illness identity - or the degree to which chronic illness becomes integrated as part of one's self. We developed a new questionnaire, the Illness Identity Resolution Scale (IIRS), that distinguishes among four illness identity resolutions (i.e., engulfment, rejection, acceptance, and enrichment). This questionnaire was validated in two chronic illnesses, and relationships between the four illness identity resolutions and psychological and illness-specific functioning were investigated. **Methods.** Study 1 sampled 276 adults with congenital heart disease (CHD; 22-78 years of age). Study 2 sampled 471 adolescents with type 1 diabetes (T1D; 14-25 years of age). In both studies, participants completed self-report questionnaires. Clinical data were obtained from medical records. **Results.** Factor analysis indicated that the four illness identity resolutions could be clearly differentiated in both studies. In Study 1 path analysis demonstrated that acceptance was related to adaptive illness perceptions, whereas enrichment, engulfment, and rejection were related to rather maladaptive illness perceptions. Enrichment was also positively related to perceived personal control. Engulfment and rejection were related to maladaptive psychological functioning, whereas acceptance and engulfment were related to adaptive psychological functioning. In Study 2, engulfment was related to maladaptive psychological functioning and more diabetes-related problems. Rejection was related to less treatment adherence. In contrast, acceptance was related to maladaptive psychological functioning, less diabetes-related problems, and better treatment adherence. Finally, enrichment was related to adaptive psychological functioning. **Conclusions.** The IIRS proved to be a valid questionnaire to assess illness identity in patients with CHD and T1D. Meaningful differential relationships with various outcome variables were obtained.

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C083

6:00 PM-7:00 PM

IMPLICATIONS OF SELF-SURVEILLANCE AND BODY DISSATISFACTION ON SELF-WORTH

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Introduction A large body of research indicates adverse medical and psychological consequences for girls who endorse thin ideal body images, including lower self-worth. The endorsement of these ideals can also lead to an increase in self-surveillance, the act of vigilant self-policing of appearance, or body image dissatisfaction. Despite this, few studies have examined the combined interactions of self-surveillance and body image on psychological outcomes. Drawing on a sample of low-income, urban girls who range from normal weight to obese, this study will assess the unique and combined influences of self-surveillance and body dissatisfaction on self-worth. **Method** Participants (N=83) were girls ages 9-13 ($M=11.88$, $SD=1.11$) who were enrolled in a summer community camp program serving low-income urban girls. Girls completed measures of self-surveillance (OBC-Youth; Lindberg, Hyde, & McKinley, 2006) and body dissatisfaction (Stunkard, Sorenson, & Schulzinger, 1983). Anthropometric measurements were taken to measure height and weight. Approximately 44.6% of the sample was healthy weight, while 22.9% were overweight and 31.3% were obese. **Results/Discussion** Participants were clustered into four groups using median splits to designate high and low levels of self-surveillance (SS) and body dissatisfaction (BD): 1) low SS and low BD, 2) high SS and low BD, 3) low SS and high BD, and 4) high SS and high BD. ANOVAs were then conducted to compare self-worth between these four profiles of SS and BD. Post hoc comparisons using the Scheffé test revealed that girls reporting high levels of both SS and BD had significantly lower self-worth than girls reporting low levels of SS and BD ($M=5.15$, $SD=1.77$). Interestingly, girls with high levels of SS and low BD had significantly lower self-worth than girls with low SS and high BD ($M=4.73$, $SD=1.40$). Taken together, results suggest that SS is associated with self-worth regardless of the level of BD. Alternatively, BD does not appear to be associated with lower self-worth except in the context of high SS. Interventions aimed to improve self-worth may be particularly effective when targeting SS behaviors in girls.

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C084

6:00 PM-7:00 PM

INTIMATE PARTNER VIOLENCE IN SINGLE AND DUAL MILITARY PARTNERSHIPS AMONG ARMY RESERVE SOLDIERS

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Background: Most research to date on intimate partner violence (IPV) in the military has focused on active duty service members/veterans, where only one spouse is in the military. Little information exists on IPV in partnerships of reserve component soldiers and how different marital structures, including dual-military partnerships, may play a role. In effort to extend existing research, the present study examined how the status of military involvement between heterosexual marital partners may affect prevalence of male- and female-perpetrated IPV. **Methods:** Data are cross-sectional from Operation: SAFETY (Soldiers And Families Excelling Through the Years), an ongoing longitudinal study of US Army Reserve/National Guard Soldiers and their partners. Comparison tests of proportions were used to compare prevalence of physical violence, sexual coercion, and injury perpetration by husbands and wives within three military marital partnership types: husband-only, wife-only, and dual. **Findings:** Within husband-only marital partnerships, the prevalence of sexual coercion perpetration by husbands was significantly higher than for wives (16.7% vs 10.5%, $p < 0.05$). Also within husband-only partnerships, the proportion of husbands perpetrating injury was marginally significantly higher than that of their wives (7.0% vs 4.3%, $p < 0.10$). For dual-military couples, the proportion of husband-perpetrated sexual coercion was also significantly higher at a trend level than for wife perpetration (11.5% vs 4.9%, $p < 0.10$). **Conclusions:** Husband-only and dual-military partnerships both showed evidence of higher proportions of sexual coercion perpetrated by husbands compared to their wives. Concordantly, husbands in husband-only military partnerships also reported more prevalent injury against their wives. Findings suggest the need to increase promotion of military-endorsed family resources to mediate stresses contributing to IPV perpetration in military households as well as further investigation into the profile of partner violence in dual-military households.

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C085

6:00 PM-7:00 PM

MINDFULNESS AND COPING ARE INVERSELY RELATED TO PSYCHOLOGICAL DISTRESS IN PATIENTS AND FAMILY CAREGIVERS IN THE NEURO-ICU

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Admission to the Neuroscience Intensive Care Unit (Neuro-ICU) is traumatic for patients and their family caregivers, leading to chronic psychological morbidity in the form of depression, PTSD, and decreased quality of life (QOL). Little is known about the psychological presentation of patients and caregiver dyads upon admission to the Neuro-ICU. In preparation for the development of a psychosocial intervention to prevent chronic psychosocial morbidity in dyads, we present data from a prospective study of Neuro-ICU patients and caregivers.

Thirty-two dyads (recruitment ongoing) of patients with acute cerebrovascular events and their familial caregivers were enrolled during Neuro-ICU admission. Psychological morbidity of depressive and anxiety symptoms were collected with the HADS, and post-traumatic stress (PTS) with the PCL-S. Measures of coping and mindfulness were collected with the MOCS-A and CAMS, respectively.

Clinically significant depressive, anxiety, and PTS symptoms were reported among 29%, 49%, and 40% of patients and 29%, 48%, and 23% of caregivers, respectively. Patients did not differ from caregivers on psychological morbidity or measures of coping and mindfulness ($ps > .12$), yet psychological morbidity, coping, and mindfulness were not correlated within dyads ($ps > .13$). Actor-partner interdependence modeling revealed that own coping and mindfulness were inversely associated with psychological morbidity equally for patients and caregivers ($\beta = -.63$ to $-.45$, $ps < .001$). There were no significant partner effects for patient coping and mindfulness on caregiver psychological morbidity or vice versa.

Psychological morbidity was high among patients upon admission to the Neuro-ICU as well as their family caregivers, yet dyad's symptoms were not interrelated. Personal coping and mindfulness were significantly related to own levels of psychological distress during Neuro-ICU admission among patients and caregivers. This suggests that coping skills training early in the recovery continuum may improve clinical outcomes and QOL and decrease chronic psychological distress in this vulnerable population.

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C086

6:00 PM-7:00 PM

AN ECOLOGICAL MOMENTARY ASSESSMENT APPROACH TO THE STUDY OF POSTTRAUMATIC STRESS SYMPTOMS IN US MILITARY SERVICE MEMBERS

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Rates of trauma-related distress are high in US military service members. Assessments of post traumatic stress symptoms (PTSS) and associated disorders (e.g., PTSD and depression) have traditionally been done retrospectively with paper and pencil assessments. Retrospective assessment methods are susceptible to biases in memory, errors in reporting, and do not account for daily symptom changes. Ecological momentary assessment (EMA) methods involve repeated sampling of current symptoms and experiences while respondents are engaged in normal daily routines; as such, EMA methods may provide more detailed, reliable, and up-to-date assessments compared to retrospective assessments. We used EMA methods to assess PTSS in current and former US military service members. Participants ($N = 75$) completed paper and pencil or electronic questionnaires four times daily (fixed interval, four hours apart) for 15 days; data collection is ongoing. Preliminary analyses indicate that participants in both paper and electronic questionnaire groups report that daily assessments increase awareness of their mental and physical states. Participants who completed electronic questionnaires were significantly more likely than those who completed paper questionnaires to report that they would use daily assessments on their own if the questionnaires were made available. We will present data on questionnaire completion rates and helpfulness of daily assessments, and discuss the benefits of using EMA in behavioral health care. Repeated symptom assessment by paper or electronic questionnaire may have intrinsic benefits for those who complete the assessments and, when shared with a behavioral health care provider, may be a rich resource to inform decisions about treatment.

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C087

6:00 PM-7:00 PM

IDENTIFYING BEHAVIOR CHANGE STRATEGIES FOR HEALTH PROMOTION PROGRAMS: APPLYING A POSITIVE DEVIANCE APPROACH

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Despite decades of effort to improve engagement in and maintenance of health behavior change, such interventions and health promotion programs often have limited success. This may occur because health promotion programs, especially those that are community-based, often occur in a social and organizational context that has multiple levels of influence on health behavior beyond the components of the program. The author of this methodology abstract proposes the new application of positive deviance principles to the evaluation of health promotion programs. This approach can identify the determinants and strategies of extremely successful programs (i.e. positive deviants) that can then be disseminated to improve outcomes of the same, but less successful health promotion programs. This is achieved through the mixed methods integration of in-depth qualitative methods to generate hypotheses about processes that permit successful health behavior outcomes with survey-based quantitative methods to test hypotheses in population-based samples. Ultimately, the characterization of strategies can elicit sustainable and transferable improvements in health behavior change from a programmatic standpoint. This methodology abstract details the key steps needed to conduct a positive deviance study aimed to evaluate and improve health behavior change outcomes, and provides suggestions for sampling size and strategy, data collection, measurement, and analytic techniques.

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C088

6:00 PM-7:00 PM

PHYSICIAN RESPONSIVENESS TO SURVEY INCENTIVES AND SPONSORSHIP IN PRESCRIPTION DRUG ADVERTISING RESEARCH

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Physicians' participation in research is important to the regulatory work that the U.S. Food and Drug Administration (FDA) performs but optimizing recruitment to ensure high response rate remains an on-going challenge. Empirical literature on strategies for soliciting response is mixed, as is evidence as to the effectiveness of strategies for recruiting by provider type. In light of that, we conducted an experiment to assess impact of financial incentive and explicit sponsorship on response rates for a study with physicians on perceptions of professionally-directed marketing material.

We sent email invitations to 3,600 primary care physicians (PCPs) and 900 Endocrinologists who had agreed to receive survey opportunities from a third-party vendor. Using a 2x2 factorial design, we manipulated the invitation email on the dimensions of incentive level (low vs. high) and sponsor disclosure (FDA disclosed as sponsor vs. no sponsor disclosed). We offered Endocrinologists \$15 or \$60 and offered PCPs either \$10 or \$40.

We conducted separate Analysis of Variance tests to assess between-subjects effects of two factors (incentive and sponsorship disclosure) with response as outcome variable for both provider types. For PCPs, only incentive level had a significant effect on average response, $F(1, 3596)=14.25, p < .001$. PCPs receiving higher incentive responded more than their lower incentive counterparts (13% responding affirmatively vs. 9%). For Endocrinologists, both incentive level $F(1, 896)=26.03, p < .001$ and sponsor disclosure $F(1, 896)=6.25, p < .05$ had a significant effect. Endocrinologists offered higher incentive responded more than respondents offered lower incentive (19% vs 8%). Among Endocrinologists, response rates were significantly higher when FDA was disclosed as sponsor than when no sponsor was disclosed (16% vs. 10%). Results underscore importance of financial incentives to encourage physician research participation. Such participation is a core source of behavioral evidence and information for contemporary marketing regulation and these results hold implications for future social science research in this vein.

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C089

6:00 PM-7:00 PM

RECRUITING PARTICIPANTS INTO PILOT TRIALS: TECHNIQUES FOR RESEARCHERS WITH SHOESTRING BUDGETS

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Background. Participant recruitment a vital part of the research process. Unsuccessful recruitment can jeopardize the integrity, validity, and completion of a research project. Substantial research has focused on recruitment strategies for large-scale research studies. Limited research has focused on recruitment strategies for small-scale research projects. This is of concern because recruitment techniques implemented by large-scale studies can be costly and require a large number of study staff— which are luxuries most pilot studies are not afforded. The purpose of this presentation is to provide researchers with techniques on how to recruit participants into pilot studies with limited funds and personnel resources. We frame this presentation to be particularly useful to graduate students and junior-level faculty investigators, as they are often tasked with implementing small-scale pilot projects with minimal resources and research experience. **Methods.** Recruitment strategies were derived from: a) the first author's experience in successfully recruiting participants during his doctoral and postdoctoral studies, c) the over 25 years of research experience of each of the two co-authors, and c) an extensive review of the relevant literature on participant recruitment strategies in to research trials. **Results.** Five techniques were identified to enhance participant recruitment into pilot studies: 1) Leverage existing social networks and personal contacts, 2) Identify and foster collaborations with community gatekeepers, 3) Develop a comprehensive list of potential recruitment platforms and venues, 4) Create recruitment materials that clearly and succinctly describe the purpose of the study, and 5) Build respectful and trusting relationships with potential participants. **Discussion.** Recruitment strategies presented can be executed with minimal personnel and monetary resources. Implementation of the proposed strategies can lead to enhanced recruitment, as well as retention among study participants.

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C090

6:00 PM-7:00 PM

RELIABILITY AND VALIDITY OF A PORTABLE BALANCE TRACKING SYSTEM BTRACKS IN OLDER ADULTS

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Background: Falls are the leading cause of disability in older adults. Fall risk reduction interventions should include balance assessment yet, the gold standard laboratory force plate (FP) is not feasible for use in community settings. Current field measures are limited by issues of subjectivity and poor reliability. **Purpose:** This study's purpose was to examine reliability and validity of a portable balance tracking system, BTrackS, in older adults, and to identify minimal detectable change (MDC) values that could signal meaningful balance changes over time. **Method:** Participants were community-dwelling older adult volunteers ($N=49$, $M_{age}=71.3 \pm 7.3$ yrs). Medial-lateral (COPx) and anterior-posterior (COPy) postural sway were collected with the FP and BTrackS, in 6 static stance trials of 20-seconds each, 3: eyes open (EO), and 3: eyes closed (EO). The BTrackS collects COPx and COPy data with individuals standing on the portable BTrackS board. Data generated by downward force sensors are transmitted via USB-interface to a computer, running BTrackS software that displays values by trial, condition, and total sway. On both devices, participants stood, hands on hips, feet shoulder width apart, as still as possible. Validity coefficients, RM ANOVA, and Bland-Altman (BA) plots examined concurrent validity. A second sample of 47 older adults ($M_{age}=75.8 \pm 7.7$ yrs) was similarly recruited to examine 3-day test-retest reliability of the BTrackS. ICC(2,1) examined reliability, and Standard Error of Measure (SEM), and 95% CI based MDC values were calculated. **Results:** Validity coefficients were good in EO and EC conditions ($rs > .90$). RM ANOVA and BA plots suggested bias, with higher BTrackS than FP values. Test-retest reliability was good, ($Rs=.83$), and SEM was 3.47cm (EO) and 7.0cm (EC). Calculated MDC values for EO (9.6cm) and EC (19.4cm), suggest that balance changes of these amounts (MDCs) over time are meaningful. **Conclusions:** Findings suggested BTrackS bias in obtaining absolute balance values. However, good test-retest reliability for the BTrackS indicated that the device has potential to identify changes in balance that might warrant further attention and intervention.

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C091

6:00 PM-7:00 PM

STAKEHOLDERS' ATTITUDES ON TECHNOLOGY DISRUPTION AND ITS IMPACT ON HEALTHCARE AND THEIR CAREERS

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Background: The rapid expansion of technology is transforming behavioral science and healthcare, bringing disruptive innovation in both care delivery and research. **Aims:** The goal of the study was to explore stakeholders' attitudes on technology disruption and its impact on healthcare and their careers. **Methods:** 74 participants completed our anonymous online survey. 44% worked in academia, 44% had a hybrid role in between academia and industry, and 12% worked in industry. 70% were doing research, 11% reported providing mental health/medical services, 11% provided consultancy for industry. **Results:** When asked about the expected disruption in behavioral healthcare, over 58% of academia professionals anticipated an almost complete disruption, compared with 89% of industry professionals, and 50% of professionals working in hybrid settings. Of the variables associated with expected disruption (perceived expertise in health technology and number of attended digital health conferences, $ps < .05$) only perceived expertise significantly predicted expected disruption, $p < .05$. As for the expected disruption of their current job, only 9% of academia professionals anticipated an almost complete disruption, compared with 22% of industry professionals, and 22% of those working in hybrid settings. Expected job disruption correlated with number of attended conferences and professional role, $ps < .05$, with providers being less likely to expect disruption in their job. **Conclusions:** The majority of stakeholders expected technology to disrupt behavioral healthcare almost completely. Not surprisingly, those with higher expertise in health technology expected more disruption. As for expected job disruption, fewer professionals are expecting major changes, possibly because in the midst of regulations about healthcare technology adoption, they are not seeing yet actual changes in their day to day activities. Understanding stakeholders' attitudes is important when developing research and care models that can accommodate both the rapid expansion of technology and the need for evidence-based services.

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C092

6:00 PM-7:00 PM

THE CONVERGENT AND DISCRIMINANT VALIDITY OF AFFECTIVE JUDGMENTS OF PHYSICAL ACTIVITY MEASURES

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Background: Affective judgments (i.e., the overall pleasure, enjoyment, and feeling states associated with engaging in physical activity) are emerging as critical to regular physical activity. Various scales have been used as interchangeable assessments of affective judgments of physical activity, although these scales may be measuring distinct constructs. Moreover, it is unclear if affective judgments demonstrate discriminant validity from other conceptually related but theoretically distinct constructs. Therefore, we examined the convergent and discriminant validity of different measures that represent various forms of affective judgments, including physical activity enjoyment, motivation for physical activity, affective attitudes and affective associations towards physical activity, and satisfaction with physical activity. **Methods:** Students ($N = 381$) and Amazon Mturk ($N = 1069$) participants completed six different affective judgment measures, as well as measures of exercise self-efficacy, exercise intentions, exercise pros and cons, and personality traits in order to examine discriminant validity. **Results:** The measures demonstrated suboptimal convergent validity that is well below the convergence found in other literatures (mean $r = .62$ in the Mturk sample and mean $r = .50$ in the student sample) and thus should not be considered measures of the same construct. The measures also exhibited poor discriminant validity particularly in regards to exercise self-efficacy (mean $r = 0.56$ in the Mturk sample and mean $r = 0.47$ in the student sample). **Implications:** Our convergent validity analysis suggests that enjoyment, motivation, affective attitudes, affective associations, and satisfaction are likely distinct constructs that should be considered independently. The lack of discriminant validity, particularly with regards to exercise self-efficacy, represents an important empirical and theoretical issue in the field of health behavior research. Future research should identify the various experiences and beliefs that underlie affective judgments of physical activity and develop more psychometrically sound measures to assess them.

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C093

6:00 PM-7:00 PM

THE DEVELOPMENT AND FEASIBILITY OF A DAILY DIARY STUDY OF SEXUAL MINORITY STRESS AND ALCOHOL USE IN SAME-SEX FEMALE PARTNER DYADS

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Young sexual minority women (SMW; i.e., lesbian, bisexual) are at increased risk for alcohol-related disorders and problems compared to heterosexual women. This health disparity is not well understood, but it is hypothesized that sexual minority stress (SMS; stress related to stigmatized/marginalized sexual orientation status) and relationship experiences play a critical role in young SMW's alcohol use. The current studies evaluated the feasibility of collecting daily diary data on alcohol use and SMS from SMW partner dyads. Currently only general measures of SMS exist, therefore, in Study 1 we developed a daily measure of SMS. SMW ($n=63$, age 18-30) completed a web-survey of 53 candidate SMS experiences adapted from existing general measures. Participants reported a mean of 22 SMS experiences during the previous 2 weeks, with items clustering around 5 categories: vicarious trauma, vigilance, family stressors, invalidation, discrimination/harassment. Study 1 suggests SMS occurs with sufficient frequency to assess in daily life. In Study 2 we used the newly developed SMS measure to collect daily diaries of alcohol use and SMS from SMW couples. Same-sex female couples ($n=8$, age 18-30) completed daily diaries for 1 week. Participants individually completed the survey between 8am-12pm daily. The primary outcome was compliance with the protocol for both partners; secondary data of interest were frequency of SMS experiences and alcohol use. Participants completed an average of 6.4 surveys (91%) between 8am-12pm and 100% of the diaries between 8am-1pm. No participants dropped out of the study. On average, they reported at least one SMS experience on 79% of days and drinking on 21% of days during the 1 week assessment period. Taken together, these studies are the first to develop a daily SMS measure and collect daily assessments of alcohol use and SMS from both partners in SMW couples. Findings are promising as they suggest it is both appropriate and feasible to collect web-based daily diaries from SMW couples. These studies have important implications for future large-scale research aimed at understanding contributors (e.g., daily SMS, relationship experiences) to alcohol-related health disparities in SMW.

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C094

6:00 PM-7:00 PM

THE HOLISTIC WELL-BEING SCALE: DEVELOPMENT AND VALIDATION OF A SELF-REPORTED MEASURE ON EQUANIMITY AND AFFLICTION

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Purpose. In recent years, interest in incorporating Eastern philosophies in the study of holistic well-being has increased. In describing this renewed understanding of holistic well-being, which focuses on the dual goals of alleviating suffering and achieving enduring happiness, the Eastern notions of 'affliction' and 'equanimity' are often brought to fore respectively. Nonetheless, there have been few systematic attempts to operationalize constructs surrounding the two concepts. The purpose of this study is to provide an overview of the two concepts, and to develop an instrument that measures holistic well-being through an affliction-equanimity model. **Method.** An expert panel developed a pool of items, which were tested in a community sample of 2,423 adults through an online questionnaire with other measures of well-being, emotion, quality of life, sense of coherence and mindfulness. Exploratory and confirmatory analyses were conducted to determine the factor structure. Correlational analysis examined the instrument's convergent validity. **Results.** Exploratory factor analysis ($n = 1228$) revealed seven factors, which accounted for 68.9% of variance. Confirmatory factor analysis ($n = 1195$) showed the first-order seven-factor structure was an adequate fit ($CFI = .936$; $TLI = .926$; $RMSEA = .057$). The seven factors correlated in expected directions with measures of quality of life, mood, meaning of life, mindfulness and hope. For affliction-related characteristics, there were factors related to bodily irritation, emotional vulnerability and spiritual disorientation. For equanimity-related characteristics, there were factors that reflect a sense of vitality, an empathetic mind for both self and others, an accepting attitude to changes, and a willingness to take care of one's spiritual well-being. **Conclusion.** The resultant 30-item Holistic Well-being Scale (HWS) had seven factors related to affliction and equanimity. Results showed it had good psychometric properties and validity, and suggested its usefulness in future studies of holistic well-being.

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C095

6:00 PM-7:00 PM

THE MULTIPHASE ACTIVITY PROMOTION STUDY (MAPS): METHODS

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Smartphone apps focused on improving physical activity (PA) have proliferated recently, but few are evidence-based. The multiphase optimization strategy (MOST), has emerged as a method for testing individual intervention components and quickly disseminating findings. This presentation describes MAPS, a phase 1 MOST trial with the aim of testing the effectiveness of two modules guided by social cognitive theory (SCT) and hypothesized to positively impact PA: Guided hierarchical goal setting (GS) and instant points-based feedback (FB). These will be tested in a 12-week randomized factorial design such that all groups will receive the basic MAPS app (BA). This includes activity tracking, graphical feedback, and weekly SCT-based videos. Group 1 will receive the BA alone. Group 2 will receive BA+GS, which guides participants as they set high quality long and short term goals for aerobic and strengthening activities. Goals are revisited each week, and individualized recommendations are provided to promote gradual, directed progression. Group 3 will receive BA+FB. For these individuals, every action within the app is associated with a number of points weighted by task importance. These accumulate to earn levels, and every 5th level produces a motivational prompt and a badge depicting an increasingly active character. Every 10th level yields a new title (e.g., "Rookie Exerciser"). These components highlight mastery experiences, in turn improving self-efficacy. Group 4 receives BA+FB+GS; accordingly, all GS features are associated with points (i.e., setting and meeting goals, logging goal-related activities). Low-active adult smartphone owners will be recruited into a home-based PA program. The PA intervention will be individualized and goal-driven: individuals will set initial long term goals according to PA guidelines. Initial short term goals will then be set based upon user preferences and abilities. For those with GS, this will occur within the app, while those without GS will use standard goal setting worksheets. MAPS issues weekly emails and text messages prompting individuals to revisit goals. To assess the influence of each module on PA and SCT constructs, questionnaires and accelerometers will be provided before and after the intervention. The results of this study may provide guidance to a prolific commercial sector with the potential for a broad reaching health impact.

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C096

6:00 PM-7:00 PM

USING ITEM RESPONSE THEORY (IRT) TO DESCRIBE AT-RISK PATIENTS PARTICIPATING IN A HEALTH COACHING PROGRAM

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Background: Item Response Theory (IRT) is a psychometric tool originally developed to assess ability, attitude and latent traits in education. In recent years, it has found widespread application in behavioral health as a way to assess health status; it uses responses from multiple domains to identify which question (or health area) is most informative in conceptualizing an individual's broader health status. **Objective:** We used IRT to rank items responses to health questions by in terms of their difficulty and ability to discriminate between participants residing in supportive housing who were participating in a health coaching intervention. We applied the graded response model to examine survey data in different domains: diet, medication adherence, depression, social support, substance use and problems, as well as a broader measure of quality of life that included multiple domains. **Methods:** We used baseline assessments from 280 people who were participating in m.chat, a technology-assisted health coaching program for people in permanent supportive housing. **Results:** With regard to the difficulty parameter, the diet questions tended to be the most "difficult," clustered on the poor end, relative to other areas, followed by substance use and social support. Within the diet questions, fruit and vegetable consumption tended to be clustered on the poor end, relative to other areas such as fat and sweets. With regard to the discrimination parameter, the substance use problems were the most discriminating, followed by depression, medication adherence and social support; scores on these items were highly discriminatory of broader health status. On the substance problems assessment, the most discriminating items was "Drinking or drug use got in the way of my growth as a person." Similarly, for the depression assessment, the most discriminating item was "Thought that you would be better off dead, or of hurting yourself." was identified as the most discriminating item. **Conclusions:** IRT models can be used to identify items that help discriminate patients' broader health status. Results from an IRT can be used to tailor help interventions to better target health areas and patients at particular risk.

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C097

6:00 PM-7:00 PM

A PILOT TRIAL OF A NON-RESTRICTIVE DIET INTERVENTION FOCUSED ON INCREASING FIBER AND LEAN PROTEIN

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Introduction: The vast majority of dietary guidelines have both multicomponent dietary goals and are also restrictive: thus adherence relies heavily on self-control resources. Non-restrictive approaches may be more conducive to greater adherence. Foods rich in dietary fiber tend to have low caloric density combined with satiety effect, resulting in greater weight loss; higher protein diets also produce weight loss through protein's influence on satiety. A dietary plan where patients are asked to focus on increasing fiber and lean protein may be helpful for weight loss. This study tested the feasibility of a weight loss trial incorporating two simple changes of increased fiber and increased lean protein. **Method:** Fifteen adults with body mass index between 30 and 40 kg/m² were recruited for a 12-week intervention. These results include the data from the first assessment occurring at 6-weeks, the final assessment at 12-weeks will be completed in October 2015. At 6-weeks, participants completed 3 bi-weekly individual dietary counselling sessions and will complete 3 more by the 12-week assessment. Body weight and dietary intake were measured at baseline, 6-, and 12-weeks. **Results:** At 6 weeks, participants lost an average of 2.68 lbs. [standard deviation (SD)=4.00]. Significant changes in diet were observed, including increases in total dietary fiber by 9.16 g/day (SD=6.09) and total protein by 13.14 g/day (SD=14.56), with decreases in saturated fat by 4.3 g/day (SD=8.33). Dietary quality, measured by the alternate healthy eating index, increased by 9.22 (SD=10.61), and the ratio of animal to plant protein reduced by 0.15 (SD=0.99). In spite of weight loss, no significant changes were observed in caloric intake. Seventy-nine percent of participants liked the diet prescribed, all participants were confident that they will stick to the diet and disagreed that they were always hungry on this diet. 12-week measures will be available in October, 2015. We hypothesize that this intervention will show clinically significant weight loss that is comparable to restrictive diets. **Conclusion:** Results revealed that a non-restrictive diet focused on eating more fiber and lean protein results in weight loss and an increase overall dietary quality. The results of this pilot trial will inform a larger trial.

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C098

6:00 PM-7:00 PM

A QUALITATIVE STUDY OF ADHERENCE TO NUTRITIONAL TREATMENT: PERSPECTIVES OF PATIENTS AND DIETITIANS

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Background: Effective interaction between care providers and patients is crucial for the success of most medical treatments; in nutritional medical treatment, it is of paramount importance. The aim of the present study was to ascertain the role of the dietitian-patient relationship and the counseling approach in influencing individual patient decisions to adhere to counseling by persisting with nutritional treatment. **Methods:** We conducted focus groups with two types of patients, namely, those who had consulted dietitians only once and those who had attended at least three appointments. We divided these two groups into 12 focus groups. In addition, in-depth interviews were held with 17 clinical dietitians. Our qualitative research was based on the perceptions of patients and dietitians. **Results:** When the encounter between the dietitian and the patient followed the standard educational and informative approach, both the short-term nature of the interaction and the absence of an individualized therapeutic program discouraged patients from persisting with treatment. In contrast, the counseling and therapeutic nutritional approach promoted nutritional guidance through broader behavioral and lifestyle therapies. This approach appears more appropriate for chronically ill patients. The dietitians and some of the patients understand that the profession is changing from the informative and educational approach to a therapeutic counseling approach, but it is difficult for them to adapt to the new model. **Conclusion:** Most patients appear to want individualized, not standardized, treatment. In order to change patients' eating patterns, dietitians must adopt a more therapeutic approach and relate to patients' cultural needs and desires to achieve sustainable results.

Keywords: therapeutic counseling approach, nutrition educational approach, treatment, nutritional

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C099

6:00 PM-7:00 PM

A RANDOMIZED TRIAL OF AN INTERNET-DELIVERED INTERVENTION COMPARING VERY LOW-CARBOHYDRATE AND MYPLATE DIETS IN TYPE 2 DIABETES

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Background: Most diet-based interventions have been conducted in-person, but online delivery may offer a means of more widely disseminating intervention content. In testing an online diet intervention approach for persons with type 2 diabetes, we also sought to compare two different recommendations for the restriction of carbohydrates. **Methods:** We randomized overweight (BMI > 25) adults with type 2 diabetes (HbA1c > 6.5%) on either Metformin or no other diabetes medication to either an ad libitum, ketogenic, very low-carbohydrate diet (LC, N=12) or a conventional diabetes diet, the American Diabetes Association's MyPlate diet (CD, N=13), using an 8-month internet-delivered intervention. To our knowledge, this was the first online, randomized trial to teach an LC diet to this population. Participants in the LC group were also educated about positive affect and mindful eating skills to support behavior change and maintenance. **Results:** Dropout evidenced a statistical trend toward being lower in the LC group (8.3%) than in the CD group (46.2%). HbA1c decreased more in the LC group (-0.8%) than in the CD group (-0.4%), and more than half (54.5%) of participants in the LC group lowered their HbA1c to below 6.5%, the cutoff for type 2 diabetes, vs. none in the CD group. Average percent body weight lost was greater in the LC group (-12.0%) vs. the CD group (-2.5%), and a greater percentage of participants lost at least 5% of their body weight in the LC group (90.1%) vs. the CD group (28.6%). Some measures of psychological well-being, such as diabetes-related distress, also improved in the LC group, compared to their own baseline. Side effects were similar in the two groups. **Conclusions:** Using an internet-delivered program, individuals with type 2 diabetes improved their health more with a very low-carbohydrate diet and psychological tools intervention than individuals taught a more conventional diabetes diet. Further study is needed to distinguish whether the psychological tools, diet composition, or both were responsible for these differences.

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C100

6:00 PM-7:00 PM

ATTENTION TO PHYSICAL ACTIVITY-EQUIVALENT CALORIE INFORMATION ON NUTRITION LABELS: AN EYE TRACKING INVESTIGATION

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Background: Consumer use of the Nutrition Facts Panel on packaged foods is low and has declined over time. Modifying the Nutrition Facts Panel to provide consumers with calorie information in a more easily understandable format (e.g., minutes of jogging required to burn off the calories in a serving) may increase consumer attention. **Purpose:** The primary purpose was to investigate consumer attention towards modified Nutrition Facts Panels with calories presented both numerically and as minutes of jogging required to burn off a serving. The secondary purpose was to examine whether attention to and attitudes towards these modified Nutrition Facts Panels varied by weight loss intention. **Methods:** 234 participants (mean age 19.6 years, SD 1.8 years; 49.6% female; 74.6% white; 33% overweight or obese; 27% trying to lose weight) made purchasing decisions about 64 packaged foods presented on a computer. Nutrition Facts Panels were shown along with the food's image, description, price, and ingredients. Participants were randomized to view Nutrition Facts Panels with numeric calorie information only or with numeric calorie information presented along with minutes of jogging required to burn the calories in a serving of a product. All participants completed a survey about the jogging-equivalent calorie information. **Results:** Among participants with access to labels with jogging-equivalent calorie information, 95% viewed this information at least once; individuals trying to lose weight viewed this information on a larger percentage of products (23%) than those not trying to lose weight (16%). Two-thirds (69%) of participants indicated that activity-equivalent calorie information would help them decide whether or not to eat a food. Two-thirds (70%) of all participants (and 85% of those trying to lose weight) preferred to have both numeric calorie information and activity-equivalent calorie information available on nutrition labels. **Conclusions:** Consumers find activity-equivalent calorie information helpful, and individuals trying to lose weight pay more attention to this information than do those not trying to lose weight.

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C101

6:00 PM-7:00 PM

BEHAVIORAL ALTERATIONS IN MICE FED A HIGH-FAT DIET ARE ASSOCIATED WITH INFLAMMATION IN THE HIPPOCAMPUS AND AMYGDALA

Camila Almeida-Suhett, Ph.D., Marissa Rescott, B.S., Alice Graham, B.S., Tianzheng Yu, Ph.D., Yifan Chen, Ph.D., Patricia Deuster, Ph.D.

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Excess dietary fat intake may cause obesity and increase the risk of cognitive impairment and anxiety disorders. Although studies suggest that obesity-associated inflammation may underlie the development of such comorbidities, further research is needed. **Objectives:** (a) determine whether expression of cytokines in different brain regions associate with cognitive and behavioral deficits; (b) establish an animal model of diet-induced obesity that replicates comorbidities observed in obese humans. **Methods:** Mice were fed two diets: (a) standard diet (SD - 69% carbohydrates, 20% protein, 11% fat); and (b) high-fat diet (HFD - 20% carbohydrates, 20% protein, 60% fat) for 16 weeks. They underwent behavioral tests (Y-Maze, Open Field, and Elevated Zero Maze) and then were sacrificed for collection of brain tissue for biochemical analyses of inflammatory markers. HFD mice gained more weight (30.09 ± 2.1 g) than SD animals (19.08 ± 1.4 g). In the Y-maze test HFD animals performed fewer correct alternations (54.5 ± 3.3) when compared to SD (68.5 ± 1.8 ; $p < 0.001$). In the open field test, HFD animals spent less time in the center (6.3 ± 0.5 % time in the center) and entered the center area fewer times (22.8 ± 1.1) compared to SD mice (8.9 ± 0.6 % time in the center; 28.2 ± 1.4 center entries; $p < 0.05$). In the elevated zero maze test, HFD mice entered fewer times into the open zone (6.0 ± 0.6) than SD mice (9.2 ± 0.5 ; $p < 0.001$). Additionally, HFD animals expressed higher levels of IL-1 β in the amygdala (20.7 ± 6.3 pg/mg) and hippocampus (28.3 ± 5.2 pg/mg) compared to SD mice (6.8 ± 1.8 pg/mg in the amygdala; 15.5 ± 2.8 pg/mg in the hippocampus; $p < 0.05$). Together our data show that animals fed a high-fat diet developed cognitive deficits and anxiety-like behavior and also support the hypothesis that neuroinflammation may serve a role in the development of those impairments.

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C102

6:00 PM-7:00 PM

CONCERN FOR HEALTH AMONG COLLEGE STUDENTS

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Objective: This study evaluated high school and college concern for health, barriers to health during high school, eating behavior, and body mass index (BMI) in college students. **Method:** Participants ($N = 249$) were college students ($M_{age} = 19.8$). The majority were Caucasian (92.2%), female (79.3%), and freshman or sophomores (71%). Average BMI was 24.8, with 41% of the sample being overweight or obese. Participants completed a survey during dinnertime at a university cafeteria, which asked about past and present health variables and current meal items. **Results:** Results indicated that 28.5% of the college students reported an increase in concern for health from high school to college. Half the sample reported no change (51.8%) and 18.1% reported a decrease in concern for health (1.6% missing). Age was positively associated with change in concern for health ($r = .22$, $p < .01$). College students who reported an increase in concern for health, as compared to a decrease or no change, reported having less healthy food available and more home barriers to healthy eating during high school ($F = 3.47$, $p < .05$; $F = 6.67$, $p < .01$). Analyses of variance indicated that college students' meals differed across the four quartiles of college concern for health. Specifically, students who reported the most concern for health consumed fewer calories, fat, and sodium and more added vegetables at dinner than those who reported the lowest concern. High school concern for health was negatively correlated with college BMI ($r = -.20$, $p < .01$), but college concern for health was not correlated with BMI. **Discussion:** Individuals who experienced high school environmental barriers to health may experience particular health benefits when entering college given their increased concern for health and the new health resources available at college. Health professionals can leverage this concern for health by informing students about healthy eating options on campus, exercise facilities and classes on campus, and health behavior change programs on campus using health promotional material.

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C103

6:00 PM-7:00 PM

DETERMINANTS AND THE ROLE OF SELF-EFFICACY IN A SODIUM-REDUCTION INTERVENTION IN HEMODIALYSIS PATIENTS: THE BALANCEWISE STUDY

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Background: Few studies have evaluated the role of self-efficacy (SE) in dietary interventions in hemodialysis (HD) patients. **Learning Outcome:** To identify sociodemographic determinants of SE for sodium restriction, and describe the impact of baseline SE on the efficacy of a dietary sodium intervention in HD patients. **Methods:** We examined data collected for the BalanceWise Study, an intervention that paired Social Cognitive Theory-based counseling with mobile dietary monitoring to reduce sodium intake in HD patients. SE was assessed at baseline by summing item scores (10-point Likert scale) on a SE scale measuring confidence that the respondent could adhere to reading food labels for salt content and limiting intake of salt, table salt, canned food, processed meats, salty snacks and fast food. Dietary sodium density was estimated at 0, 8 and 16 weeks based on up to three, 24-hour dietary recalls, analyzed using Nutrition Data System for Research®. The association of baseline SE (dichotomized at the median) with changes in sodium intake at 8 and 16 weeks was assessed using factorial ANOVA with treatment allocation and SE ' treatment allocation as covariates. Of the 190 BalanceWise participants, 150 (79%) had baseline SE and dietary data at 0, 8 and 16 weeks, and were included in this analysis. **Results:** In a multivariable model of significant sociodemographic covariates, higher SE was associated with older age ($p = 0.003$) and perceived income adequacy ($p = 0.009$). High baseline SE was associated with greater reductions in sodium intake at 16 weeks ($p = 0.03$), and there was a tendency towards an interaction between treatment allocation and SE ($p = 0.06$ at 8 weeks; $p = 0.07$ at 16 weeks). **Conclusions:** HD patients who are younger and report inadequate income were more likely to have low SE for sodium restriction. HD patients with low SE at baseline appear to benefit most from this theory-based behavioral intervention.

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C104

6:00 PM-7:00 PM

DIETARY INTAKES AMONG HEAVY VS. LIGHT SMOKERS FROM THE ALPHA-TOCOPHEROL, BETA-CAROTENE CANCER PREVENTION STUDY COHORT

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Smokers on average tend to have a less adequate diet as compared to non-smokers. A limited number of studies reported that smokers consume less dietary fiber, fruit, vegetables, and fish and more alcohol and caffeine. Less is known about dietary differences between light vs. heavy smokers. We evaluated dietary intake among light vs. heavy smokers in Finnish male smokers, aged 50–69 years, in the Alpha-Tocopherol, Beta-Carotene Cancer Prevention (ATBC) Study. In addition to detailed dietary data, baseline serum levels of alpha-tocopherol and beta-carotene were measured. Out of 27,111 participants, 17,300 (63.8%) reported smoking ≥ 20 cigarettes/day and were classified as heavy-smokers, and 9,811 (36.2%) reported smoking < 20 cigarettes/day and were classified as light-smokers. Baseline mean serum alpha-tocopherol (11.86 ± 0.03 vs. 12.13 ± 0.04 mg/l; $p = 0.00001$) and beta-carotene (201.90 ± 1.38 vs. 233.48 ± 1.93 ug/l; $p = 0.00001$) were significantly lower among heavy-smokers. Intakes of cereal (212.13 ± 0.67 vs. 221.78 ± 0.84 g/day; $p = 0.00001$), vegetables (110.91 ± 0.54 vs. 118.29 ± 0.71 g/day; $p = 0.00001$), fruits (209.91 ± 1.48 vs. 232.44 ± 1.98 g/day; $p = 0.00001$), and total dietary fiber (18.44 ± 19.29 g/day; $p = 0.00001$) were significantly lower among heavy-smokers as compared to light-smokers. However, intakes of red meat (73.14 ± 0.27 vs. 68.04 ± 0.32 g/day; $p = 0.00001$), processed meat (78.10 ± 0.47 vs. 69.44 ± 0.54 g/day; $p = 0.00001$), total meat (203.52 ± 0.66 vs. 188.70 ± 0.79 g/day; $p = 0.00001$), dairy products (737.23 ± 3.06 vs. 719.42 ± 3.74 g/day; $p = 0.0001$), coffee (640.56 ± 2.80 vs. 549.23 ± 3.13 g/day; $p = 0.00001$), and alcohol (20.55 ± 0.18 vs. 13.50 g/day; $p = 0.00001$) were significantly higher among heavy-smokers as compared to light-smokers. Our data suggest that dietary intakes vary significantly by the level of smoking and that heavy-smokers have poorer dietary quality as compared to light-smokers. The observed differences in dietary intake in this study have important implications for cancer prevention and control efforts, suggesting a need to incorporate dietary components into tobacco cessation interventions.

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C105

6:00 PM-7:00 PM

DIETARY QUALITY IN AFRICAN AMERICAN BREAST CANCER SURVIVORS

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Background Dietary quality contributes to chronic disease risk and may also impact cancer survivorship. African American women (AA) have the shortest breast cancer survival rates of any other racial or ethnic group. Additionally, AA women with breast cancer are more likely to die from comorbid conditions such as diabetes or heart disease; conditions impacted by weight status and dietary quality. Virtually no studies have examined dietary quality in AA Breast Cancer Survivors (AABCS). **Objective** We aim to describe dietary quality in AABCS using the Healthy Eating Index-2010 (HEI-2010) calculated from a validated food-frequency questionnaire. **Methods** A secondary analysis will be conducted using baseline data including anthropometrics, demographics and dietary intake from a randomized weight management study with 216 AABCS. Dietary intake was measured using the Block (121-items) 2005 Food Frequency Questionnaires (FFQ). Dietary quality was examined based on HEI-2010 score. HEI provides a total score (range: 0–100; higher scores indicate better quality with a score of 80 \leq being optimal), as well as scores for 12 dietary components including total fruit (0–5), whole fruit (0–5), total vegetables (0–5), dark green vegetables and legumes (0–5), whole grains (0–10), milk (0–10), seafood and plant proteins (0–10), fatty acid ratio (0–10), sodium (0–10), solid fat (0–10), excess alcohol and added sugars (SoFAAS) (0–10), food energy kcal, and fat percentage kcal. **Results** The mean HEI-2010 Total Score was 65 (std: 11.07); scores ranged from 38.9 – 93.92. Sodium, Milk, and Whole grains were below 50 percent of their maximums. Scores for the remaining components ranged from 57 percent to 87 percent maximum (SoFAAS and dark green vegetables and legumes; respectively). **Conclusion/Implications** AABCS's overall eating patterns reflect sub-optimal quality, particularly related to sodium, milk, and whole grain consumption. However, high consumption of dark green vegetables and legumes were also observed. Few dietary interventions are available for this underserved group. Increased knowledge of the dietary patterns of AABCS can inform the development of dietary interventions for this group.

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MERITORIOUS AWARD WINNER
C106

6:00 PM-7:00 PM

DIETARY VARIETY AND SELF-MONITORING IN A BEHAVIORAL WEIGHT LOSS STUDY

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Background: Diets with less variety have been associated with better weight loss outcomes. One mechanism suggested by prior research is that higher variety diets are also higher in calories. Another mechanism might be that diets with higher variety are more complex and burdensome to self-monitor. Since self-monitoring adherence is linked to weight loss, and declines over time, it is reasonable to investigate whether diets with less variety lead to better self-monitoring adherence. **Methods:** Data were collected during a 12-month weight loss study using mobile self-monitoring. Participants with at least one food recorded were included in this analysis (150 of 158 enrolled). Adherence to self-monitoring was calculated from recorded food logs. The first time a food was recorded it was labeled new. A dietary variety measure (new foods/total foods) was calculated. A day of monitoring was logging more than 800 calories/day. Weight was objectively measured at baseline and 12 months. **Results:** Participants were on average BMI 31.8 ± 4.0 kg/m², age 46.1 ± 8.7 years, 88% white and 82% female. In the first month of monitoring, participants on average logged 4.3 ± 1.5 new foods and 12.1 ± 0.7 total foods per day. By month 2, average new foods dropped to 2.3 ± 0.4 and total foods to 11.8 ± 0.4 per day. Controlling for self-monitoring in month 1, participants with a lower dietary variety in month 1 self-monitored more complete days during months 2–12 ($B = -183.74$, $p = .02$). Self-monitoring in months 2–12 was associated with greater weight loss at 12 months ($B = -.028$, $p < .001$). **Conclusion:** Participants with a lower dietary variety when beginning a weight loss program had better adherence during subsequent months of the program. Recommendations to reduce the variety of foods consumed when starting a weight loss program may promote monitoring adherence.

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C107

6:00 PM-7:00 PM

EVALUATING THE INDIRECT EFFECTS OF FAMILY FAT TALK ON MINDFUL EATING VIA POSITIVE BODY IMAGE IN COLLEGE WOMEN

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Direct exposure to a family climate characterized by interaction patterns involving self-disparaging remarks or complaints regarding one's body size, shape, or weight is linked to decreased well-being in college women. Indeed, research demonstrates that more frequently overhearing family members engage in fat talk communications corresponds with elevated body image disturbance. The current investigation examined the link between family fat talk disclosures and the frequency of engaging in a more adaptive mindful eating style. We also tested four possible positive body image pathways that may contribute to explaining this predicted inverse association. Specifically, we evaluated body appreciation, functional body appreciation, functional body awareness, and subscribing to a broad conceptualization of beauty as partial mediators of this relationship both in separate and a simultaneous multiple indirect effect model. Participants included 341 undergraduate females who completed a series of self-report questionnaires assessing the variables of interest administered through an online survey platform. Hayes' (2013) regression-based PROCESS macro performed 10,000 bootstrap resamples per analysis to address the key study objectives adjusted for body mass index (BMI). Results were mostly in the hypothesized directions. Analyses revealed that more frequent family fat talk corresponded with lower levels of mindful eating, body appreciation, and functional body appreciation. Higher levels of mindful eating were associated with increased body appreciation, functional body appreciation, functional body awareness, and a greater endorsement of a broad conceptualization of beauty. Both functional body appreciation and body appreciation emerged as partial mediators with the former retaining its effect in a combined model. Our preliminary findings have implications for further advancing the development of socio-ecological models of mindful eating emphasizing the roles of positive body image and exposure to family fat talk in young adult women.

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C108

6:00 PM-7:00 PM

EXPERT SORTING AND CONCEPT MAPPING TO INFORM A CALIBRATED ITEM BANK FOR FOOD PARENTING PRACTICES FOR A UNIFIED FRAMEWORK

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Measures of food or nutrition parenting practices are inconsistently operationalized in the published literature. To help researchers unify the measurement of food parenting practices and facilitate comparison across studies, we involved food parenting experts in an expert panel process to agree on how measures of food parenting practices should be reconceptualized.

Methods: 28 (80% response rate) experts from 7 countries (Australia, Finland, Mexico, Japan, Netherlands, UK & US) sorted 110 food parenting practice concepts identified from our synthesis of the literature (102 measures) and from surveying parents (N=135). Experts were provided the option to use a previously developed content map to guide their sorting. The sorting was analyzed with multi-dimensional scaling analysis (MDSA) followed by a cluster analysis (Concept Mapping software) which was then qualitatively reviewed and modified with expert input. **Results:** A 16 cluster solution was identified, 15 of which aligned within three overarching concepts proposed by the content map provided: Coercive Control, Structure and Autonomy Support. Four clusters mapped together under the concept of Coercive Control – *threats and bribes, using food to control emotions, pressure to eat, control intake*. Six clusters aligned with the concept of Structure – *food availability/accessibility, modeling, family meal time, indulgence, and facilitating unhealthy intake*. Five clusters mapped together under Autonomy Support – *child involvement, encourage healthy eating, nutrition education, exposure to variety/selection, and guided choices/redirection*. One cluster, *restriction for weight*, mapped between Coercive Control and Autonomy Support and was treated as a separate concept. **Conclusion:** The proposed 16 category derived from expert sorting will provide the conceptual framework to develop a calibrated item bank that can facilitate more uniform measurement of food parenting practices and allow for comparisons across studies.

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C109

6:00 PM-7:00 PM

EXPLORATION OF COMMUNITY MEMBERS' PERSPECTIVES ON HOW TO ENHANCE THE CULTURAL HUMILITY OF NUTRITION PROGRAMMING

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Culturally tailored dietary interventions are needed to reduce obesity and improve treatment effectiveness via enhanced acceptability and sustainability. Although research has examined cultural differences in dietary behaviors of diverse groups, understanding culturally appropriate methods of delivering health programming is also needed, especially when targeting populations that are particularly vulnerable to obesity and related diseases. This study explored community stakeholders' perceptions of how to enhance the cultural humility of nutrition programming in an urban public housing district. Focus groups were conducted with 17 participants (76% female; 94% African American) to explore: 1) connections between food and health; 2) food and culture; and 3) preferences for nutrition programming/level of integration of cultural factors desired. Transcripts were coded, guided by thematic analysis. Codes were then categorized into themes that related to the research questions. Participants described traditions (e.g., Sunday family meals) and foods (e.g., "soul food") typical of their culture. Results suggest that cost, time, and convenience drive food decisions, yet health concerns also play a role. Money and lack of food access were the greatest barriers to healthy eating. Participants prefer group-based programs with skill-based nutrition instruction and discussed integration of cultural preferences in nutrition programming. Programs should also be sustainable and occur within their community. Consistent with cultural humility, program leaders should become partners with community members to better understand their unique experiences and help them make lasting community changes. Results can inform nutrition programming targeting underserved African American residents of public housing districts.

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C110

6:00 PM-7:00 PM

FAST FOOD INTAKE IN RELATION TO EMPLOYMENT STATUS, STRESS, DEPRESSION, AND DIETARY BEHAVIORS IN LOW-INCOME PREGNANT WOMEN

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Objective. This study explored fast food intake as a potential mediator of the relationships among employment status; stress; depression; fat, fruit and vegetable intakes by race (African American vs Non Hispanic White) and body mass index (BMI) category: overweight vs. obesity). **Methods.** Low-income overweight and obese pregnant women (N = 332) were recruited from the Special Supplemental Nutrition Program for Women, Infants and Children in Michigan. Path analysis was performed to explore mediation effects by race and BMI category. **Results.** Fast food intake marginally mediated the relationship between depression and fat intake (p = 0.06) in African Americans. Fast food intake mediated the relationship between employment status and fat intake (p = 0.02) but marginally mediated the relationship between employment status and vegetable intake (p = 0.09) in Non-Hispanic Whites. For overweight women, fast food intake marginally mediated the relationship between employment status and vegetable intakes (p = 0.07). Also, fast food intake mediated the relationship between employment status and fat intake (p = 0.04) and the relationship between depression and vegetable intake (p = 0.01). Moreover, fast food intake partially mediated the relationship between depression and fat intake (p = 0.003). For obese women, fast food intake mediated the relationship between employment status and fat intake (p = 0.04). **Conclusions.** Fast food is an important topic for nutrition education for overweight and obese pregnant women. Intervention may address issues related employment status (e.g., lack of time to plan and cook healthy meals) and depressive mood.

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C111

6:00 PM-7:00 PM

"BUDDY" CHARACTERISTICS IN A BEHAVIORAL WEIGHT-LOSS INTERVENTION

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Background: Social support is an established mediator of health behavior changes, including weight loss, but little is known about the characteristics of those chosen to be a support "Buddy," and how these relate to outcomes. We examined Buddies in the Opt-IN 6-month weight loss trial, how those characteristics compared to participants, and whether they were correlated with percent weight loss. **Methods:** Participants select a Buddy who agrees to provide support; Buddies also provide demographic information and self-reported height and weight. We analyzed data from September 2015-July 2015 to determine what type of Buddy was most often chosen. We also compared Buddy-Participant pairs on race, gender, and BMI using Chi-squared tests to determine which variables showed homophily. Lastly, we examined the impact of homophily on participant BMI change using ANOVAs. **Results:** Randomized Opt-IN participants [N=297; 83.8% female, 17.5% Black, age=38.81(10.99), BMI=32.77(3.42)] and their Buddies [N=297; 69.7% female, 17.5% Black, age=39.95(12.74), BMI=27.07(5.67)] were studied. As of July 2015, 157 participants completed a 6-month assessment. Participants most often picked a friend [43.1%] as a Buddy, followed by a spouse/partner [29%]. Homophily between participant and Buddy was observed on gender [$\chi^2(1, 297)=32.46, pX^2(6, 297)=66.64, pX^2(1, 297)=4.31, p=.038$]. No significance was found for race ($p=.186$), gender ($p=.267$), or BMI ($p=.678$) on percent BMI change at 6 months. **Conclusions:** Homophily was observed on race and gender, but not when comparing BMI of participants to Buddies. Homophily was not significantly related to changes in BMI after 6 months. Additional research is needed to determine whether certain types of Buddies are more effective in facilitating weight loss. Understanding such effects could help to optimize the provision of support by selecting effective Buddies and by training Buddies to improve their delivery of support, thereby improving the positive impact of social support in weight loss interventions.

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C112

6:00 PM–7:00 PM

#WEIGHTLOSS: HELPFUL OR HARMFUL? INTEGRATING SOCIAL MEDIA INTO WEIGHT LOSS INTERVENTIONS

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Background: Integrating social media platforms into weight loss interventions is an emerging area of behavioral research. Delivering weight loss interventions via social media may help minimize barriers such as cost, time, and access to hard-to-reach populations. Users may benefit from receiving health information, social support, and motivation through social media. **Objectives:** To conduct a literature review to examine studies that used social media as part of a weight loss intervention. Literature regarding body image content on social media was considered an ad-hoc component of the review to address potential psychological impacts of weight loss interventions. **Methods:** A total of 33 studies published in the last five years were included in this review. Twenty-seven studies included social media as a component of a weight loss intervention and six studies focused on body image content in social media. **Results:** This review found that information-seeking and social support are drivers of engaging with social media in weight loss interventions, which may help to facilitate the spread of weight loss interventions and social support through online networks. Social media is often used in conjunction with other intervention delivery methods ($n=10$), such as one-on-one health coaching, group sessions, print materials, text messaging, and podcasts. Studies investigating body image ($n=6$) draw on social comparison theory, which states users may make negative body comparisons and practice unhealthy weight loss behaviors, which is an important consideration in developing weight loss interventions using social media. **Conclusions:** Weight loss interventions using social media should aim to include messages that are informational and provide social support to assist in weight loss. Future studies should investigate the positive (social support, informational posts) and negative impacts (social comparisons, body image) of social media on weight loss behaviors. Furthermore, understanding the effectiveness of social media on weight loss and maintenance behaviors as a stand-alone delivery method is important for future interventions.

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C113

6:00 PM–7:00 PM

A META-ANALYSIS OF WEIGHT LOSS OUTCOMES IN INDIVIDUALS WITH BINGE EATING DISORDER

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Binge eating disorder (BED) is highly comorbid with obesity and associated medical complications such as heart disease and diabetes, making weight loss an important treatment goal for individuals with BED. Clinical wisdom suggests that individuals with BED have poorer weight loss outcomes in behavioral weight loss interventions (BWLIs). However, results of studies of BWLs for BED patients are mixed and difficult to interpret given methodological differences, varying levels of BED severity, and heterogeneity of weight loss treatments. As such, a meta-analysis examining weight loss treatment studies that included BED and/or matched non-BED samples was conducted. Pooled results indicated that BWLs using gold standard (pooled $N = 610$) vs. non-gold standard treatment programs (pooled $N = 607$) demonstrated superior weight loss outcomes, with participants losing an average of 7.64 pounds compared to 1.28 pounds, respectively, $d = 1.00$, 95%CI = [0.88–1.13], $v = .004$. Interestingly, BED (pooled $N = 1094$) and non-BED (pooled $N = 191$) individuals had similar weight loss across studies ($M = 5.05$ pounds and 5.73 pounds, respectively; $d = -0.12$, 95%CI = [-0.27–0.04], $v = .006$). However, when comparing weight losses between individuals with BED and non-BED who received gold standard treatments, individuals with BED lost less weight ($M = 7.64$ lbs, pooled $N = 534$) compared to non-BED individuals ($M = 10.33$, pooled $N = 76$), $d = -0.32$, 95%CI = [-0.56–0.07], $v = 0.015$. Additional results such as mean percent weight loss, treatment length, retention rate, and outcomes in relation to BED status (i.e., full vs. sub-threshold) across treatments will also be reported. These findings suggest that type of weight loss treatment is an important factor to consider when examining weight loss outcomes in individuals with BED.

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C114

6:00 PM–7:00 PM

A QUALITATIVE STUDY OF AMERICAN ADULTS' GROCERY SHOPPING HABITS AND CHALLENGES: IMPLICATIONS FOR INTERVENTION

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Public health campaigns have emphasized the importance of a healthy diet but little improvement has occurred. The point of purchase (e.g., grocery store) warrants further exploration as an opportunity to facilitate healthy food selection. Focus group participants completed a demographic survey and engaged in a semi-structured discussion to identify challenges to purchasing healthy foods. Inclusion criteria included: ≥ 21 years old, doing $\geq 50\%$ of household grocery shopping, desire to improve dietary quality, and agreement to audio-recording. Exclusion criteria included: bariatric surgery, meals delivered to the home, or meal replacements for ≥ 2 meals/day. Ten focus groups yielded responses from 37 adults. Participants were predominantly female (94.6%), middle-aged ($M=59.14$ years, $SD=11.42$), married (51.4%), white (91.9%), non-Hispanic or Latino (93.9%), and working full-time (45.9%); 11.4% reported receiving SNAP benefits and 54.3% owned a smartphone. Participants reported spending an average \$83.38/week on groceries, and eating 1–2 meals out/week. Increasing prices, not knowing how to prepare some healthy foods (mainly produce), and becoming accustomed to tedious diets were barriers. They reported developing strategies for identifying unhealthy foods (e.g., ingredients ending in “ose” like fructose). They reported frustration when stores rearrange inventory and motivation to purchase items on sale or with coupons. Individuals receiving SNAP benefits, people with heart disease or diabetes, and those shopping for children or spouses with special diets reported increased interest in improving dietary selection and making shopping easier. Clear barriers to healthy food selection while grocery shopping were therefore identified. Future interventions may target those shopping for children or spouses with restricted diets, adults that receive SNAP benefits, and those with health conditions because they may need additional support to improve diet.

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C115

6:00 PM–7:00 PM

BARRIERS TO EATING HEALTHY AT WORK AMONG OVERWEIGHT/OBESE INDIVIDUALS WITH AND WITHOUT BINGE EATING DISORDER

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In America, an estimated 123.42 million people work full-time. Given that full-time workers spend approximately a third of their day at work, it is important to understand the influence of the workplace environment on healthy eating and obesity. The present study compared eating behaviors, weight-related self-efficacy, and work/social adjustment in a sample of overweight/obese participants with and without binge eating disorder (BED vs. NBO). Seventy-four participants (27% BED; 76% female) recruited from primary care completed questionnaires on the aforementioned constructs. Eating behavior at work was influenced by social, emotional, and practical factors. Specifically, 28% of participants reported that coworkers influenced them to eat more “junk” food; 48% reported that work stress influenced them to eat more “junk” food; and 32% reported that time constraints interfered with healthy eating at work. Coworkers brought food to share at work on average 1.59 times per week ($SD=1.76$, range=0–5), and participants reported eating unplanned food on average 2.57 times per week ($SD=3.37$, range=0–20). BED participants reported more work/social adjustment impairment than those without, $t(71)=3.42$, $p < .01$, but no group differences were observed on any of the workplace barriers to healthy eating. Weight-related self-efficacy was the most consistent correlate of workplace eating behaviors with low self-efficacy being related to more reported workplace barriers to healthy eating, including eating food that others brought to work ($r=-.32$, $p < .01$), eating more in response to work stress ($r=-.45$, $p < .01$), and eating more in response to coworker influence ($r=-.34$, $p < .01$). Additionally, work/social impairment was related to eating more food in response to stress, ($r = .24$, $p < .05$). These results suggest that employees view coworkers, stress, and time constraints as significant barriers to healthy workplace eating, that unplanned food is readily available in the workplace, and that addressing weight-related self-efficacy may help individuals reduce eating in response to these workplace influences.

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C116

6:00 PM-7:00 PM

BASELINE CHARACTERISTICS OF PARTICIPANTS ENROLLED IN AN OBESITY PREVENTION TRIAL DELIVERED IN EFNEP AND SNAP-ED

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The Expanded Food and Nutrition Education Program (EFNEP) and the Supplemental Nutrition Assistance Program-Education (SNAP-Ed) are USDA-funded nutrition education programs offered to low-income families which may provide an ideal platform for the wide dissemination of obesity prevention interventions for young children. The current trial aims to test the comparative effectiveness of an adapted evidence-based obesity prevention intervention delivered through EFNEP and SNAP-Ed versus the standard curriculum delivered by the programs. Data were collected on sociodemographic, anthropometric, and behavioral variables for children and parents at baseline. To date, 153 child-parent dyads have been enrolled. Children participating in the trial are 2-5 years old ($M = 4.5$; $SD = 0.7$) and 55% female. Parent/caretaker ages range from 20-74 ($M = 34.4$; $SD = 9.2$), and 82% are mothers. The sample is ethnically/racially diverse (36% Hispanic or Latino; 37% African-American; 16% White; 10% multiracial/other). Forty-one percent of the children and 69% of parents enrolled are overweight or obese. An analysis of variance showed a significant main effect for race on Child BMI z-score ($F(2, 126) = 5.75$, $p = 0.004$). Post hoc tests indicated that Latino children ($M = 1.13$; $SD = 1.08$) had significantly higher BMI z-scores than African-American ($M = 0.52$; $SD = 1.20$) and White children ($M = 0.34$; $SD = 0.99$). There were no differences in BMI z-scores between African American and White children. Few children consumed 5 or more servings of vegetables (9%) or fruits (12%) per day. One-third of parents reported that their children consumed at least 1 sugar-sweetened beverage per day. These data highlight the need for dissemination of evidence-based weight gain prevention programs for low-income children and their parents.

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C117

6:00 PM-7:00 PM

BEHAVIOR CLUSTERS ASSOCIATED WITH DISCORDANT METABOLIC-WEIGHT PROFILES

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Lifestyle behaviors associated with metabolically healthy obese (MHO) or metabolically-unhealthy but normal-weight (MUNW) individuals may provide better understanding of incongruences between metabolism and weight leading to potential intervention targets. We examined diet and physical activity (PA) behaviors among MHO, MUNW, metabolically unhealthy obese (MUO), and normal (metabolically and weight-wise) individuals in the Multiethnic Cohort (MEC). The analysis included 169,695 men and women (African American, Native Hawaiian, Japanese American, Latino, or White) who were 45-78 years old at baseline. "Obese" in this analysis was defined as a baseline Body Mass Index (BMI) > 25 because results of the overweight and obese categories were similar. "Metabolically unhealthy" was defined by a diagnosis of diabetes, hypertension, or stroke reported at baseline. A cluster analysis was performed on the intake of 21 food and beverage groups used in the MEC food frequency questionnaire and daily hours spent sleeping, sitting, and in moderate and vigorous PA. Four clusters emerged: Cluster 1 – high vigorous PA, low sitting time, meat oriented diet; Cluster 2 – intermediate levels of PA and sitting time, vegetarian style diet; Cluster 3 – intermediate levels of PA, sitting time, and dietary intake; Cluster 4 – low PA, high sitting time, unhealthy diet. Using logistic regression, each metabolic-weight group was compared to "normal." Clusters 1 and 4 were more likely and Cluster 2 less likely to be members of the MHO and MUO groups, compared to Cluster 3. Cluster 1 was less likely and Cluster 2 more likely to be MUNW. The similar dietary and PA behaviors associated with both MHO and MUO suggest that MHO may be a point in the progression towards MUO, but longitudinal studies are needed. In contrast, better weight but not metabolic control was seen when PA and meat intake were high (Cluster 1). Our findings support a synergistic role between diet and PA for optimal metabolic and weight control.

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C118

6:00 PM-7:00 PM

BODY IMAGE SIMILARITIES IN OVERWEIGHT AND OBESE ADULT MEN AND WOMEN PRIOR TO ENGAGING IN THE WEIGHT LOSS PROCESS

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Continued growth in adult obesity rates in the United States warrants further examination of psychosocial well being, such as body image and self-esteem, in larger community samples of adults. Currently, gaps in the research about body image in adult men, middle-aged and older populations, and overweight and obese populations remain. The present analysis seeks to elucidate the relationship between body size and body image and potential similarities or differences between women and men who are overweight or obese, prior to engaging in the weight loss process. 220 women and 119 men between the ages of 18 and 64 years old were recruited to be in a weight loss program throughout the Twin Cities between July 2012 and August 2013. Prior to beginning the program participants completed questionnaires including the Multidimensional Body-Self-Relations Questionnaire Appearance Evaluation scale (MBSRQ-AE), Rosenberg Self-Esteem scale and other demographic information. General Linear Models were used to examine body image scores by gender adjusted for BMI, age, race, marital status, education and self-esteem. After adjustment, men had an average body image score of 18 (95% CI: 16.9, 19.1) while women had an average score of 16.8 (95% CI: 16.0, 17.6). These scores were not statistically significantly different, suggesting that men and women who are overweight or obese have similar, relatively positive feelings about their bodies. This work is unique in considering body image in both overweight and obese men and women as well as an older sample of participants.

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C119

6:00 PM-7:00 PM

BODY MASS INDEX AND WELL-BEING: THE PSYCHOLOGICAL PROTECTION OF PERCEIVED ATTRACTIVENESS

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Overweight contributes to lowered psychological well-being in men and women. Body mass index, however, is not the only important aspect between weight and well-being. In fact, perceptions of overweight and attractiveness might be more influential on quality of life than actual weight status. In a study of weight-loss treatment participants, Friedman and colleagues (2002) found that individuals' ratings of their perceived attractiveness mediated the relationship between BMI and both depression and self-esteem. The aim of the current study was to investigate the influence of two distinct components of body image (i.e., perceived attractiveness and weight-based body dissatisfaction) on psychological well-being in a non-clinical sample. The differential impact of these body image variables on men and women was also examined. Participants ($N = 438$) completed online measures of psychological well-being (i.e., self-esteem and depression) and the two measures of body image. For women ($n = 306$) all four key variables were related (all $ps < .003$) prior to mediation. Mediation analyses showed the inclusion of perceived attractiveness to lessen the relationship between BMI and both well-being variables to non-significance (depression, $p = .10$; self-esteem, $p = .50$). The inclusion of weight-based body image lessened the relationship between BMI and self-esteem to non-significance ($p = .35$), but only showed partial mediation with depression ($p = .04$). For men ($n = 132$) all four key variables were related (all $ps < .004$) prior to mediation with the exception of the relationship between BMI and depression which was not statistically significant ($p = .05$). Mediation analyses showed the inclusion of each body image variable to lessen the relationship between BMI and self-esteem to non-significance (perceived attractiveness, $p = .07$; weight-based body image, $p = .28$). As depression was unrelated to BMI, these mediation analyses were not performed. Actual weight status (i.e., BMI) may not be as influential on well-being for women as how attractive one feels. Similarly, for men, perceived attractiveness may buffer the impact of weight status on self-esteem. Promoting positive body image in people of all sizes may allow an increase in self-esteem independent of BMI.

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C120

6:00 PM-7:00 PM

CALORIE HIGHS AND LOWS: HOW MUCH DOES CONSISTENCY MATTER IN WEIGHT CONTROL?

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Background: Behavioral weight control programs commonly recommend adherence to daily calorie intake goals, yet also allow for flexibility in intake across days. However, evidence is lacking as to whether consistency in daily calorie intake is important for successful weight loss. The current study sought to explore the relation between day-to-day calorie consistency and weight loss in the context of behavioral weight loss treatment, as well as to examine the relation between variability in intake and several factors known to be associated with weight control success. **Method:** Participants ($N = 283$) enrolled in a 12-month group-based, behavioral weight loss program completed assessments that included self-report measures of psychological variables related to weight management and 24-hour recalls of dietary intake. **Results:** Low calorie variability and greater weight loss were associated at end-of-treatment, but variability was not predictive of weight loss independent of mean calories in continuous analyses. Interestingly, participants who met the program goal of $\geq 10\%$ weight loss had less calorie variability at end-of-treatment compared to those who did not meet this target, although groups did not differ significantly on mean calorie intake. Results suggest that daily calorie consistency may facilitate successful weight loss for some. Additionally, autonomous motivation for weight management and cognitive dietary restraint were inversely related to end-of-treatment calorie variability. **Discussion:** These findings suggest that lower calorie variability across days is associated with greater treatment success. Additional research is needed to examine whether recommendations to limit calorie variability during behavioral weight loss treatment improve long-term weight control.

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C121

6:00 PM-7:00 PM

CELL PHONE USE AMONG ADULTS PARTICIPATING IN A STUDY REQUIRING EXTENSIVE SMARTPHONE USE

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Background. Ninety percent of adults living in the United States own a cell phone and 58% own a smartphone. Smartphones allow for a convenient way to record events as they occur in real-time, which is ideal in behavioral research. Understanding smartphone use by participants involved in research can provide valuable information that may increase participant recruitment and retention. Purpose. To describe cell phone use among adults participating in the EMPOWER study, a behavioral weight-loss intervention using smartphones to self-monitor nutrition and exercise and respond to daily ecological momentary assessment prompts. Methods. Participants from four cohorts enrolled in the EMPOWER study completed a 13-item questionnaire at baseline created to assess cell phone usage. Questions pertaining to cell phone use examined the number of phones carried by participants, type of phone, phone carrier and plan, and frequency of use. Other questions assessed smartphone use and examined the type of user the participants considered themselves to be, type of operating system, and access to wireless internet at home. Descriptive statistics were performed for the response data from each item. Results. The sample ($N=167$) was 50.37 ± 11.56 years old, mostly female (88.0%), and white (80.1%); 78.4% were employed full time and 71.8% had an annual income $> \$50,000$ with 16.11 ± 3.38 years of education. Of the sample, 35.2% used an Apple iPhone, 50.9% used Verizon as their cellular phone carrier, and 65.4% had a family plan for phone usage. The majority (61.1%) of smartphone users were ≥ 50 years, and 95.1% of the sample had home wireless internet access. While 77% of participants reported cell phone use several times a day, only 50.9% ($n=82/161$) viewed themselves as being somewhat experienced smartphone users. Discussion. Most participants reported using their cell phone several times a day. However, findings show limited experience using smartphones, which has several implications for study participation including the need to train individuals prior to study participation and provide financial support for data plans. Future studies would benefit from a better understanding of participant preferences, knowledge of and experience with smartphones, especially for studies that require frequent use of a smartphone for self-monitoring and responding to queries about behaviors, context and mood.

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C122

6:00 PM-7:00 PM

CHANGE IN HEALTH LITERACY IN A 12-WEEK MHEALTH WEIGHT LOSS TREATMENT PILOT FEASIBILITY STUDY

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Introduction. Low health literacy can limit the adoption of healthful behaviors. Identification of individuals lacking literacy skills prior to participation in behavioral weight-loss interventions designed to promote energy balance may benefit from attention to this deficit. The aim of this secondary analysis was to explore changes in health literacy following a 12-week mHealth behavioral weight loss intervention. **Methods.** Subjects used the *Lose It!* app on a smartphone to track food intake and exercise and receive feedback about tracked choices. Health literacy was measured at baseline and 12 weeks using The Newest Vital Sign, a quiz that involved reading a food label. We classified subjects as having adequate (score ≥ 4) or limited (score < 4) health literacy. Wilcoxon signed-rank test was used to analyze the change in health literacy for all subjects and within literacy groups that completed the 12-week trial. **Results.** The sample ($N = 30$) was mostly female (86.7%) and white (84.6%), with an average age of 45.1 ± 12.6 years and 16.8 ± 3.0 years of education. At baseline, 66.7% ($n = 20$) of the sample's scores reflected adequate health literacy and over the 12-week trial, subjects did not demonstrate a significant change ($p = .44$, median = 4.0). However, there were significant changes within each health literacy group. Subjects having limited health literacy at baseline improved their scores over time (median = 3.0 to 4.0, $p < .01$), with 8 (80%) improving to adequate health literacy levels. Those with adequate health literacy at baseline showed a significant change over time ($p = .02$), with 6 subjects demonstrating worse health literacy levels. However overall there was no change in the median score of 4.0, reflecting maintenance of adequate health literacy. **Discussion.** The limited literacy group improved their health literacy level and, overall, those with adequate baseline health literacy maintained adequate literacy over time. The improvement in health literacy for those with limited literacy may be related to use of a smartphone app in this pilot intervention study where individuals could track their food intake. Future studies should examine how tailored mobile apps for self-monitoring may benefit those with limited health literacy and promote healthful eating habits.

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C123

6:00 PM-7:00 PM

COGNITIVE FUNCTION AS A PREDICTOR OF INTERVENTION ADHERENCE AND INITIAL WEIGHT LOSS IN OVERWEIGHT AND OBESE ADULTS

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Stronger cognitive function has been associated with positive health behaviors including improved adherence to prescription medications and better program adherence and weight loss following bariatric surgery. We evaluated the association between baseline cognitive function, adherence to program components and weight loss in 36 middle age ($M = 41.25$ yrs.), overweight/obese ($M = 35.8 \text{ kg/m}^2$) men ($N = 7$) and women ($N = 29$) who completed a 3-mo. weight loss intervention. Participants were asked to attend weekly behavioral sessions, comply with a reduced calorie, portion controlled meal diet (14 entrées, 21 shakes, 35 fruits and vegetables/wk.) and complete 100 min. of moderate intensity physical activity (PA)/wk. Body weight and cardiovascular fitness were assessed at baseline and 3-mos. Session attendance, adherence to the PA and diet prescriptions and number of off-diet episodes were recorded weekly. Results indicated that attention (Flanker task) was positively correlated with session attendance ($p = 0.03$), adherence to the diet ($pp = 0.02$) and weight loss ($p = 0.006$). Executive control (Stroop task) was positively correlated with session attendance ($p = 0.03$), fitness ($p = 0.02$), and weight loss ($p = 0.03$), and negatively correlated with off-diet eating episodes ($p = 0.02$) and positively correlated with weight loss ($p = .03$, $R^2 = .18$), executive control ($p = .03$, $R^2 = .19$) and working memory ($p = .04$, $R^2 = .22$) were associated with weight change when controlling for fitness. These results suggest that stronger baseline cognitive function is associated with better adherence and weight loss in response to a 3-mo. weight loss intervention. Additional trials to assess the role of baseline cognitive function on longer-term weight loss (≥ 12 mos.), and evaluate the impact of interventions designed to improve cognitive function on weight loss and maintenance are indicated.

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C124

6:00 PM-7:00 PM

CUMULATIVE RISK EXPOSURE AND WAIST CIRCUMFERENCE IN YOUNG CHILDREN: THE MEDIATING ROLE OF TELEVISION & MODERATING ROLE OF GENDER

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Background: Children exposed to multiple stressors are more likely to be overweight. Few studies have examined potential mechanisms explaining this link, despite the potential for mediation analyses to identify targets for intervention. We use a cumulative risk framework to examine how the accumulation of multiple psychosocial and sociodemographic stressors affects child weight. We also examine whether these stressors influence weight indirectly through children's television (TV) time, as stressed parents may be more likely to use the TV to occupy children. **Methods:** We examined baseline data from 324 parents and their children (2-5 years old) participating in a childhood obesity prevention intervention (grant #R01 HL 091093). Parents reported on sociodemographic stressors (e.g., low income), psychosocial stressors (e.g., parenting stress, household chaos) and children's TV time. Trained data collectors measured children's waist circumference (WC). We computed two cumulative risk (CR) scores by summing individual stressors within each domain (sociodemographic and psychosocial). Regression analyses examined the relationship between CR scores and WC. Next, we used the PROCESS macro in SAS to test whether TV time mediated the relationship between CR and WC, and to explore potential moderation of the indirect effects by gender. **Results:** In regression analyses, CR score in the psychosocial domain was related to higher WC ($\beta = 0.45$, $p = 0.02$), while sociodemographic CR score was not related to WC ($\beta = -0.23$, $p = 0.32$). The indirect effect through TV time was significantly different from zero for both the psychosocial CR score (95% CI: 0.0004, 0.1574) and the sociodemographic CR score (95% CI: 0.0006, 0.2613). This indirect effect was moderated by gender: while both CR scores were associated with higher TV time for both genders, TV time was positively related to WC only among girls and unrelated to WC among boys. **Conclusions:** Results suggest that it is important to consider the accumulation of stressors, rather than any single stressor, to understand children's vulnerability for overweight. Among girls, but not boys, TV viewing may help to explain the link between stressor exposure and overweight and, in turn, is a potential target for preventive interventions.

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C125

6:00 PM-7:00 PM

DIFFERENCES IN WEIGHT CONTROL EATING BEHAVIORS AMONG BLACK AND WHITE WOMEN ENROLLED IN A BEHAVIORAL WEIGHT LOSS INTERVENTION

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African American (AA) women typically lose less weight than non-Hispanic white women (W) in behavioral weight loss interventions (BWI). This study examined the relationship between race and eating behaviors and whether eating behaviors mediated the relationship between race and weight loss.

Participants ($n=170$) were women (55.3% AA, 48.8% college graduates, 46.1 ± 10.8 years, mean BMI= 37.9 ± 7.9) who completed a 4-month, Internet and mobile-delivered, community-based BWI. At baseline and 4-months, weight was measured and eating behavior assessed using the Eating Behavior Index (EBI), a 26 item self-report survey of behaviors associated with weight loss. We conducted a series of linear regression analyses to evaluate the associations between race, change in EBI, and weight change, controlling for marital status, income and baseline weight.

AA women lost significantly less weight than W women ($-2.38 \pm 3.82\%$ vs. $-5.03 \pm 4.54\%$, $p < .001$). At 4 months, there was a significant difference in change in total EBI score (AA= 5.7 ± 8.9 vs. W= 9.5 ± 10.0 ; $p=.04$). Compared to AA women, W women reported significantly more favorable changes in EBI items related to duration of eating, inability to stop eating, and grapping weight ($p's < .05$), while AA women reported more frequently making food less visible ($p=.04$). Change in EBI score partially mediated the relationship between race and weight loss (indirect effect= 0.612 , 95% CI= $0.27, 0.79$).

This study showed that racial differences in weight loss were partially explained by adoption of more, and different, strategies to change eating behaviors. Future BWI might address factors associated with adherence to weight control eating behaviors to improve overall weight loss among AA women.

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C126

6:00 PM-7:00 PM

DOES ECOLOGICAL MOMENTARY ASSESSMENT DATA REFLECT BASELINE SELF-REPORT IN WEIGHT LOSS TREATMENT?

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Baseline self-report measures like the Three Factor Eating Questionnaire (TFEQ) are often used to predict or moderate the success of behavioral weight loss treatments. However such measures can suffer from bias and be misinterpreted by researchers, which can be problematic when trying to adjust treatment methods to cater to participants' expected behavior. Recently, Ecological Momentary Assessment (EMA) has been used to measure dietary behavior, but literature suggests that baseline predictions will not match the EMA data. The current study sought to compare baseline TFEQ scores with dietary lapse triggers gathered by EMA, so as to assess the accuracy of self-report in predicting behavior. We hypothesized that participants would report triggers outside of their predicted behavior, where "predicted behavior" is based on participants' TFEQ subscale scores. Participants ($n=12$, BMI= $27-45$ kg/m², age= $18-57$) reported their dietary lapses (EMA) via smartphone for 6 weeks; participants' baseline results for internal disinhibition, external disinhibition and restraint on the TFEQ were dichotomized into low/high scores. An independent samples t-test revealed that those in the low restrained eating group more frequently reported "boredom" ($p = 0.04$), "feeling like they deserved it" ($p = 0.05$), and "lack of motivation" ($p = 0.06$) as triggers. Participants with high external disinhibition reported negative thoughts as frequent triggers ($p = 0.02$). Internal disinhibition groups showed no significant differences. The low restraint group being triggered by boredom, low motivation and feeling like they deserved it, is consistent with the behavior of low restrained eaters. However, the high external disinhibition group (expected to be triggered by external disinhibitors) frequently reported negative thoughts (a seemingly internal disinhibitor). The mixed results indicate that the TFEQ may not be an accurate predictor of dietary behavior due to bias and misinterpretation; additionally, forms of attribution bias may misattribute lapse triggers while participants are reporting their data. This can result in inaccurate EMA data and ineffective treatment measures and methods. Future research should aim to acknowledge these biases to refine the consistency between baseline measures and EMA.

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C127 6:00 PM-7:00 PM

EFFECTS OF FAMILY-BASED BEHAVIORAL TREATMENT ON CHILDREN'S EATING ATTITUDES AND BEHAVIORS: LONGITUDINAL PERSPECTIVES

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Family-Based Behavioral Treatment Effects on Children's Eating Attitudes and Behaviors: Longitudinal Perspectives

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Research suggests that children who have healthy eating attitudes and behaviors tend to maintain a healthy weight status, contrarily, children with unhealthy eating attitudes and behaviors tend to have eating disorders or overweight. Family-based behavioral treatment for pediatric obesity (FBBT) which often includes calorie restriction and monitoring food intake of the child is considered the gold standard treatment for child overweight. However, these weight loss practices are often associated with disordered eating as well. Thus, some argue whether FBBT could improve, evoke, or worsen children's eating attitudes and behaviors. The current study examines whether FBBT has iatrogenic effects on children's eating attitudes and behaviors after one year and two years follow-up. Data is taken from recently completed randomized controlled trial examining the efficacy of FBBT programs on obesity. Participants were 249 obese and overweight children ages 8-12 and their legal guardians who were enrolled in a FBBT program in a rural community setting. Children were measured for height and weight and completed the Children Eating Attitude & Behavior Test (ChEAT). Hierarchical Growth Multilevel Modeling analyses was used to examine the effects of FBBT on children eating attitudes and behaviors. Compared to baseline, there was a significant variance in children's ChEAT scores at one year and two years after the treatment indicating an overall improvement in children's eating attitudes and behaviors ($p = 0.000$). Further evidence suggest that children who reported the highest ChEAT scores at baseline (i.e., worse eating attitudes and behaviors) were less likely to improve overtime, and there were significant within children variance (i.e., intrapersonal aspects) ($\sigma^2 = 38.24$; $p = 0.000$) and between children variance (i.e., interpersonal aspects) ($\sigma^2 = 28.09$; $p = 0.000$) that remains unexplained and warrants further exploration of possible individual and family-related factors in the context.

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C128

6:00 PM–7:00 PM

EXPERIENCES OF DAILY WEIGHING DURING A 12-MONTH WEIGHT LOSS PROGRAM

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Background: Little is known about individual experiences of daily weighing. The objectives were to 1) describe participants' experience of daily weighing, and 2) explore factors influencing adherence to daily weighing in a behavioral weight loss study. **Methods:** We conducted three focus groups with a total of 30 participants. Participants were those who had completed a 12-month weight loss intervention that included daily self-weighing using a Wi-Fi scale. Individuals were eligible to participate regardless of their frequency of self-weighing. **Results:** The sample (N=30) was predominantly female (83.3%) and White (83.3%) with a mean age of 52.9±8.0 years and mean BMI of 33.8±4.7 kg/m². Five main themes emerged: 1) reasons for daily weighing, 2) reasons for not daily weighing, 3) factors that encouraged weighing, 4) recommendations for others about daily weighing, and 5) suggestions for future weight loss programs. The reasons for daily weighing included: feeling motivated, receiving feedback for eating and exercise behaviors, and feeling under control. The reasons for not daily weighing were: feeling frustrated when weight increased and experiencing barriers to daily weighing due to interruption of routine. Participants reported the following factors encouraged daily weighing: it is efficient; scale is reliable; weight is automatically recorded, synchronized, and graphically displayed with smartphone app. Participants recommended that individuals need to accept how one's daily weight may fluctuate and suggested that more education on daily weighing be provided in future weight loss programs. **Conclusions:** Our results identified several positive aspects to daily self-weighing, which can be used to promote adherence to this important weight loss strategy. Future studies need to use daily weighing as an additional dimension to support participant's self-regulation of their eating and exercise behaviors and enhance weight loss and maintenance.

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C129

6:00 PM–7:00 PM

EXPERIENCES OF DAILY WEIGHING DURING A 12-MONTH WEIGHT LOSS PROGRAM

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Background: Little is known about individual experiences of daily weighing. The objectives were to 1) describe participants' experience of daily weighing, and 2) explore factors influencing adherence to daily weighing in a behavioral weight loss study. **Methods:** We conducted a qualitative study using focus group methodology. Participants were those who had completed a 12-month weight loss intervention that included daily self-weighing using a Wi-Fi scale. Individuals were eligible to participate regardless of their frequency of self-weighing. **Results:** The sample (N=30) was predominantly female (83.3%) and White (83.3%) with a mean age of 52.9±8.0 years and mean BMI of 33.8±4.7 kg/m². Five main themes emerged: 1) reasons for daily weighing, 2) reasons for not weighing daily, 3) factors that encouraged weighing, 4) recommendations for others about daily weighing, and 5) suggestions for future weight loss programs. The reasons for daily weighing included: feeling motivated, receiving feedback for eating and exercise behaviors, and feeling under control. The reasons for not weighing daily were: feeling frustrated when weight increased and experiencing barriers to daily weighing due to interruption of routine. Participants reported the following factors encouraged daily weighing: it is efficient; scale is reliable; weight is automatically recorded, synchronized, and graphically displayed with smartphone app. Participants recommended that individuals need to accept how one's daily weight may fluctuate and suggested that more education on daily weighing be provided in future weight loss programs. **Conclusions:** Our results identified several positive aspects to daily self-weighing, which can be used to promote adherence to this important weight loss strategy. Future study needs to use daily weighing as an additional dimension to support participant's self-regulation of their eating and exercise behaviors and enhance weight loss and maintenance.

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C130

6:00 PM–7:00 PM

EXPERT-IDENTIFIED FACILITATORS AND BARRIERS TO THE IMPLEMENTATION OF CHILDHOOD OBESITY CLINICAL TREATMENT GUIDELINES

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Background: Referral of children with obesity to a comprehensive, intensive behavioral intervention (at least 26 contact hours over 6 months) is a clinical standard recommended by the U.S. Preventive Services Task Force. However, there is limited patient access to such services. The purpose of this study was to ascertain facilitators and barriers to following clinical guidelines. **Methods:** Forty-three clinical, scientific, policy, and insurance experts were invited to participate in a two-day conference in July 2015 on improving access to childhood obesity treatment. Respondents were given two weeks to complete a pre-conference online survey. The survey was guided by the multilevel framework for understanding causal factors (structural, organizational, provider, patient, and innovation factors) on implementation effectiveness (adoption, fidelity, implementation cost, penetration, and sustainability). Five-point Likert scales queried barriers and facilitators for implementation. **Results:** Thirty-three experts completed the survey (59% women, 85% Caucasian, and 88% non-Hispanic). Most had been in their field for at least 16 years (58%) and represented national interests (49% national, 21% urban, 30% other). Reimbursement was most frequently rated as a major barrier, followed by financial operating costs, availability and quality of training, patients' financial concerns and motivation to change, and intervention delivery skill. Facilitators included stakeholder support; ability to recruit patients; provider's attitudes, beliefs, and knowledge about the intervention; and provider's motivation. Organizational and provider factors were rated as most important to implementation effectiveness. **Conclusion:** To expand access to the USPSTF recommendations for the treatment of childhood obesity, system-level changes are needed in reimbursement, policy, and professional training.

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C131

6:00 PM–7:00 PM

EFFECTS OF THE UCLA WORK WELLNESS PROGRAM, BHIP, ON MENTAL AND PHYSICAL HEALTH

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Workplace wellness programs (WWP) offer an opportunity to both employees for improved health and to employers for lowered healthcare costs and illness-associated absenteeism. Meta-analytic studies indicate that WWP are generally associated with lowered healthcare costs and improved employee health. Despite the significant rise in mental healthcare costs and the importance of mental wellbeing in workplace productivity and attendance, few WWP studies have focused on changes in the emotional and psychological wellbeing of participants. The current study was designed to examine the effects of the Bruin Health Improvement Program (BHIP), a WWP for employees of the University of California, Los Angeles, on seven domains of health: physical health, mental health, stress, energy level, social satisfaction, self-efficacy, and quality of life. To examine changes across the seven domains, multiple one-way multivariate analyses of variance (MANOVAs) and follow-up univariate *t*-tests were conducted. Effect sizes were subsequently calculated to determine the magnitude of each effect. Results reveal significant improvements across all seven domains for participants who completed BHIP. These findings underscore both the importance of measuring mental health and of implementing psychosocial interventions in WWP to further reduce healthcare costs and increase workplace productivity.

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C132

6:00 PM-7:00 PM

DIMENSIONS OF IMPULSIVITY ARE DIFFERENTIALLY ASSOCIATED WITH BINGE EATING, BINGE DRINKING, AND THEIR COMORBID PRESENTATION

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Both binge eating (BE) and binge drinking (BD) are associated with numerous negative health outcomes, including depression, adverse interpersonal consequences, and poorer quality of life. However, the etiology of this well-established comorbid presentation and its associated consequences remain largely unknown. Utilizing a cross-sectional sample of college students, the current study investigated the interrelationships among impulsivity, binge status (no binge behavior, BE, BD, and comorbid BE/BD) and associated psychological characteristics (e.g., anxiety and stress). In line with emerging evidence, a multidimensional view of impulsivity was adopted. In particular, the UPPS-P model (Cyders et al., 2013), which assesses five distinct but related impulsivity traits was used for these analyses. Results demonstrated that negative urgency (NU), or the tendency to act rashly in the face of negative emotion, significantly predicted membership in all three risk behavior groups ($OR_{range} = 2.59-3.63$) relative to the reference group. In addition, every one unit increase in lack of perseverance was associated with 2.26 times greater likelihood of reporting BE only. Alternatively, every one unit increase in sensation seeking was associated with 1.78 times greater likelihood of reporting BD only. Finally, reporting comorbid BD/BE was significantly associated with positive urgency ($OR = 2.29$) and lack of premeditation ($OR = 2.02$). Results broadly support that NU may serve as a transdiagnostic risk factor while other facets of impulsivity may be differentially associated with risk behaviors. Follow-up analyses also revealed that individuals who reported comorbid BE/BD were significantly elevated on measures of stress and anxiety relative to those who reported only one binge behavior. Overall, these results indicate that prevention and intervention efforts may be well served to target NU as it was associated with a number of risk behaviors.

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C133

6:00 PM-7:00 PM

DISPARITIES IN HEALTH BEHAVIORS IN THE US OVER THE LAST DECADE

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PURPOSE: The main goals of Healthy People 2010 were to eliminate health disparities and increase quality/years of healthy life. In the last decade, several entities emphasized these goals in their preventive health efforts. Our purpose was to determine the status of disparities in health behaviors over the last decade in the US. **METHODS:** Data were obtained from the 2003, 2005, 2007, and 2009 Behavioral Risk Factor Surveillance Systems. Health behaviors were dichotomized to reflect met fruits and vegetables (F&V) and physical activity (PA) recommendations, and current cigarette smoking, heavy and binge drinking. Attribute-specific disparities for each behavior were calculated for sex, age, education, income, and race. Values ranged from zero to one (larger value = more disparities). Overall disparity scores (mean of attribute-specific disparity scores) were calculated for each behavior. Attribute contribution percentages were calculated. **RESULTS:** Overall disparities for F&V fluctuated over the years (2003=.046; 2005=.048; 2007=.036; 2009=.038), as did overall disparities for heavy drinking (2003=.016; 2005=.012; 2007=.016; 2009=.009). PA and cigarette smoking revealed a U pattern (2003=.063; 2005=.053; 2007=.056; 2009=.060) and (2003=.065; 2005=.061; 2007=.065; 2009=.070), respectively. Binge drinking was the only behavior where disparities declined consistently over the years (2003=.056; 2005=.05; 2007=.045; 2009=.042). Over the years, lower education was the largest contributor to overall disparities for cigarette smoking, while age was the largest contributor for PA (older) and heavy and binge drinking (younger) disparities. Age and education were the largest contributors to overall disparities for F&V. **CONCLUSION:** The results suggest that efforts to reduce health disparities for preventive health behaviors in the last decade have had minimal impact. Secondary prevention interventions targeting specific education and age groups are necessary.

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C134

6:00 PM-7:00 PM

DO OLD AGE, DEMENTIA, DEPRESSION, AND COMORBIDITY AFFECT THE LIKELIHOOD OF HIRING A HEALTHCARE ADVOCATE?

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Older adults are at high risk of developing multiple chronic illnesses and suffering from cognitive and mental health disorders. The healthcare system is difficult to navigate and designed to treat acute illnesses, often neglecting to address the multifaceted healthcare needs of older adults who require long-term care. Health care advocates (HCAs) are professionals trained to reduce the complexities of treating chronic conditions. The purpose of the present study was to examine whether age (70, 80, 90), having a cognitive or mental health disorder (i.e., dementia, depression), and comorbidity (hypertension and arthritis, otherwise healthy) affected the perceived likelihood of hiring an HCA. It was hypothesized that imagining being 90 years old with dementia and comorbid chronic illnesses would result in a greater perceived likelihood of hiring an HCA. Participants ($N = 1134$) recruited from a large urban cultural park were randomly selected to complete a questionnaire. Participants were asked to imagine themselves as the individual depicted in the vignette, and to indicate their likelihood of hiring an HCA to provide ten assistive and advisory services. A 3 (Age: 70 years, 80 years, 90 years) by 2 (Mental Health Status: Depression, Dementia) by 2 (Comorbidity: present, not present) analysis of covariance (ANCOVA) was conducted, controlling for participants' understanding of the role of an HCA and participants' confidence in their understanding of the mental health condition. There was a significant main effect for mental health condition, $F(1, 1120) = 87.23, p < .001$. Participants who imagined that they had dementia reported a greater likelihood of hiring an HCA ($M = 7.35, SD = 1.91$) than those who imagined they were depressed ($M = 6.21, SD = 2.31$). Better understanding the role that HCAs can play with older adults is important because the growing number of older adults may overwhelm the health care system in the coming decade.

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C135

6:00 PM-7:00 PM

ELECTROPHYSIOLOGICAL AND BEHAVIORAL EVIDENCE OF NEUROFEEDBACK ENHANCEMENT ON ATTENTION AND MOTOR RESPONSE

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Neurofeedback (NFB) is a non-invasive procedure for brain regulation and function. Arns and colleagues (2013) identified NFB as an effective and impactful treatment for attention deficit hyperactivity disorder. The present study examines effects of NFB on attention and motor response using electrophysiology and an AX continuous performance task (AX-CPT). The contingent negative variation (CNV) of the event-related potentials from an electroencephalography (EEG) and reaction time during an attention task were isolated to evaluate physiological and behavioral changes resulting from NFB. The amplitude of the late component of the contingent negative variation (ICNV) relates to anticipation of processing a stimulus and preparation for a motor response. Tecce (1972) proposed that a greater amplitude negativity of the ICNV is associated with the allocation of neural resources for processing a response during a paired stimuli (S1-S2) such as in the AX-CPT. The ICNV which indexes cognitive and motor processing is expected to have a greater negativity across leads in the experimental condition (NFB) compared to the control condition (No-NFB). Additionally, the NFB condition is expected to yield a faster reaction time than the No-NFB condition. The participants of this study are healthy college students without any previous experience with NFB. Analysis of the ICNV amplitude for the experimental condition and for the control condition yielded a significant result ($p < .05$). The NFB condition produced a greater ICNV amplitude than the ICNV amplitude for the No-NFB condition. These findings provide support that NFB has a beneficial effect on anticipatory response and preparation for a motor response. For the behavioral performance, participants in the NFB condition were significantly faster when responding to the imperative stimuli ($p < .05$). Results from this study lead to the conclusion that neurofeedback enhances neural activations relating to attention and promotes a faster motor response.

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C136

6:00 PM-7:00 PM

EXPLORING FAMILY SUPPORT IN ELDERLY WITH ARTHRITIS PAIN AND DEPRESSION

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Objectives: The prevalence and chronic nature of arthritis makes it the most common cause of disability among U.S. adults. Family support reduces the negative impact of chronic conditions generally but its role in pain and depression for arthritic conditions is not well understood. This study aims at exploring whether family support is associated with pain and depression in older adults with arthritis. **Methods:** A cross-sectional sample of 844 males (35.0%) and 1,567 females (65.0%) with arthritic conditions ($n = 2,411$) and an average age of 76.0 years were drawn from the 2012 Health and Retirement Study (HRS). Using logistic regression and controlling for age, ethnicity, gender, marital/educational status and employment/income, physical function/disability status, pain and antidepressant medications, and other clinical indicators of chronic health conditions, we examined the effects of family support (spouse, children, other immediate family) on pain and depressive symptoms. **Results:** Positive and negative family support were significantly associated with depressive symptoms but not with pain. Support from a spouse was significantly associated with depressive symptoms. **Discussion:** Overall our results suggest that with higher positive family support, depressive symptoms and pain were more likely to decrease among individuals with arthritis. In addition, our results indicated that both pain and depressive symptoms were more likely to increase when higher levels of negative family support were present.

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C137

6:00 PM-7:00 PM

HOW GROUP MODERATION BY A HEALTH CARE PROVIDER IMPACTS PATIENT COMMUNICATION IN SICKLE CELL DISEASE FACEBOOK GROUPS

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Individuals living with chronic conditions are increasingly turning to the Internet for health-related information, support and advice. There are now many disease-specific groups on public social networking sites such as Facebook; unfortunately, there is often concern regarding the clinical accuracy of information and safety of advice provided through these public sites. A moderated Facebook site presents an opportunity to ensure quality information and support is provided to patients through a site they already use and frequently visit.

In this study, we were interested in how moderation strategies of online health groups influence the content of discussions and interaction. We identified two popular Facebook groups, with different moderation policies, dedicated to providing support for patients with Sickle-cell disease. Sickle-Cell Warriors is an open, moderated public Facebook page whose owner, a medical professional with SCD, controls what posts are most visible on the page. In contrast, Sickle Cell Unite is a closed group with very little moderation on messages posted to the group.

We retrieved from each Facebook page posted messages, number of comments and likes to each post, from February 2014 to February 2015 (over 15000 posts). Two independent coders manually coded, using 14 thematic categories, a subset of 128 randomly selected messages (68 Unite, 60 Warriors). Inter-rater reliability was high (71% agreement, Kappa=0.68).

The top categories accounting for 78% of codes were: self-expression (20%), advertisement (12%), God/prayer (11%), seeking information (11%), encouragement (8%), seeking shared experience (8%), and sharing information (8%). Comparison of messages between the two Facebook groups showed there are 75% more advertisements on Unite while there are 136% more "self-expression" messages on Warriors. Posts on the Unite group received 23.7 (SD=45.7) likes and 10.7 (SD=21.11) comments on average versus 22 (SD=40) likes and 4.1 (SD=9) comments on Warriors. The Unite group received 10.4 times as many posts to their page as the Warriors group over 1 year.

This study provides insight on the impact of moderation strategies on user dynamics of health-related online groups. The level of activity and types of interactions differed significantly on a public social networking site with the presence of a medically trained moderator.

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C138

6:00 PM-7:00 PM

INCREASED PERCEPTION OF SOCIAL SUPPORT MAY BE ASSOCIATED WITH HEALTH-RELATED QUALITY OF LIFE IN PATIENTS WITH COPD

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Chronic obstructive pulmonary disease (COPD) is a progressive disease characterized by restrictions in airflow. Management of symptoms using self-management strategies such as smoking cessation, attendance at pulmonary rehab, and adherence to medication regimens is the focus of treatment. Social support has been found to be beneficial in improving self-management of chronic diseases and improving health-related quality of life, but little research has been performed in patients diagnosed with COPD. The primary aim of this study was to determine how a measure of perceived social support impacted health-related quality of life in patients with COPD. A secondary aim is to understand how marital status, living arrangement, and employment impact health-related quality of life as well as perceived social support. Participants ($N=41$) completed a multi-item survey which included self-report measures of social support and health-related quality of life. Results of multiple regression analysis showed that higher levels of perceived social support were associated with increased health-related quality of life ($\beta = -.589$, $p = .001$) after controlling for age and disease severity ($R^2 = .326$, $F(1) = 5.716$, $p = .001$). This finding may be due to increased social functioning and less disease-related psychological disturbance ($\beta = -.638$, $p \leq .001$). Participants reporting current employment or non-health related retirement endorsed higher levels of social support ($t(31) = -2.436$, $p = .021$) as well as improved health-related quality of life ($t(38) = 2.484$, $p = .018$). Marital status and living alone were not associated with perceived social support or health-related quality of life. In conclusion, perception of social support is beneficial to health-related quality of life in patients with COPD, most likely due to increased social functioning.

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C139

6:00 PM-7:00 PM

LIVESTRONG CANCER NAVIGATION: INCREASING AYAS PREPAREDNESS FOR MEDICAL APPOINTMENTS

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Background: Yearly ~70K adolescents and young adults (AYAs) aged 15-39 are diagnosed with cancer. 70% of these patients live ≥ 5 years after treatment and need follow-up care to address late and long-term effects. LIVESTRONG Cancer Navigation (LCN) offers free programs for people affected by cancer to help them meet various survivorship needs, one objective of which is to increase their sense of preparedness for medical appointments, a factor associated with better health outcomes. In 2012, LCN surveyed 462 AYAs affected by cancer who used LCN services to assess the impact of the LCN on their preparedness for medical visits and compared findings with non-AYAs (survivors aged 40 and older). **Methods:** AYA and non-AYA participants ($n=1427$) at any stage in the cancer continuum completed surveys at LCN intake, 2, and 6 weeks post-intake. Preparedness was measured at all 3 time points (T1-T3) using a one item Likert scale (1 not at all prepared to 5 very prepared) that asked, "Overall, how prepared did you feel for your most recent visit with your health care provider?" Independent sample t-tests were conducted to compare levels of preparedness in AYAs ($n=462$) versus non-AYAs ($n=843$). Data was compared across three time points to understand how preparedness levels changes over time after utilizing LCN services. **Results:** At T1 when first utilizing LCN, AYAs ($M=3.22$, $SD=1.418$) were found to have significantly lower levels of preparedness than non-AYAs ($M=3.47$, $SD=1.308$); $t(435) = 2.08$, $p=.037$. Over time all participants' preparedness increased (AYAs and non-AYAs) and at T3 no significant difference of preparedness levels between both groups was found. There was a significant increase in preparedness levels for AYAs from T1 ($M=3.22$) to T2 ($M=3.78$, $p=0.004$) and T2 to T3 ($M= 3.98$, $p=.032$). **Conclusion:** AYA survivors have a unique cancer experience with different emotional, physical and practical concerns than non-AYA survivors. Findings suggest that AYAs are less prepared than non-AYAs for medical visits, but that navigation services may be able to improve their level of preparedness. Further study of the impact of these services may help the cancer community enhance and create more robust support services for AYAs and older adults.

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C140

6:00 PM-7:00 PM

LONGITUDINAL TRAJECTORY OF COGNITION AND HEALTH LITERACY IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Background With lower health literacy (HL) and cognitive impairments possibly having an impact in self-management behaviors, it is critical to gauge the potential decline in HL and cognition in patients with Chronic Obstructive Pulmonary Disease (COPD). **Methods** A prospective cohort study was performed at two hospitals in New York City and Chicago. We analyzed data from 301 participants, ≥ 55 years, with a diagnosis of COPD and no evidence of other chronic respiratory conditions or prior history of dementia or severe cognitive deficit. Participants completed in-person interviews every 12 months. Global cognitive functioning was measured by the Mini Mental State Exam (MMSE). Measures for HL were taken from the Short Test of Functional Health Literacy in Adults (S-TOFHLA) and Newest Vital Sign (NVS). A generalized estimating equations model was used to analyze mean changes in paired performance scores of these measures at baseline and 12 months, while adjusting for COPD severity score and depression (Patient Health Questionnaire 9) both at baseline and 12 months; as well as relevant comorbidities (hypertension, hyperlipidemia and diabetes) and socio-demographic measures (age, sex, race/ethnicity, education, primary language) at baseline. **Results** Cognitive impairment was found in 36% of the patients, 28% had marginal or inadequate levels of HL according to the S-TOFHLA, while 78% were classified as having limited or marginal HL according to the NVS. The average MMSE score was 25.3 ± 3.4 at baseline, and 24.8 ± 3.9 at 12 months (mean difference = -0.5, $sd = 2.6$, $p < 0.001$). The difference remained statistically significant after adjusting for age, sex, race/ethnicity, education, primary language, comorbidities, depressive symptoms and COPD severity ($p = 0.002$). The average NVS score at baseline was 2.0 ± 1.7 and 1.8 ± 1.4 at 12 months (mean difference = -0.5, $sd = 1.5$). This decline in HL as assessed by the NVS was significant in both the adjusted ($p = 0.001$) and unadjusted ($p = 0.005$) models. We did not find a difference in HL when assessing this construct using the S-TOFHLA. While not statistically significant, patients with ≥ 1 sd decline in COPD severity showed greater decline in MMSE, S-TOFHLA and NVS scores. **Conclusions** There is a significant decline in cognitive function and HL in COPD patients when evaluated longitudinally.

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C141

6:00 PM-7:00 PM

MANIPULATING HEALTH FOCUSED MOBILE APP DATA IN GOOGLE ANALYTICS FOR INTENSIVE LONGITUDINAL ANALYSIS

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Despite an increase in the use of mobile technologies to deliver health behavior change interventions, measurement and evaluation challenges have impeded the ability of researchers to do meaningful analysis. While tools such as Flurry Analytics and Google Analytics provide valuable high-level mobile application monitoring data, oftentimes they are not optimal for deeper, more meaningful analysis. To evaluate user engagement and behavior change, mobile app data needs to be clean, examine aggregate and individual use, and be easy to analyze. The goal of this effort was to create custom mobile application analytic dashboards in Google Analytics for two National Cancer Institute Smokefree.gov smoking cessation applications (QuitGuide and quitSTART) that would enable both researchers and program planners to easily export and analyze user data. Two types of dashboards were created: Researcher (Long-form) and Non-Researcher (Short-form). The Researcher dashboard provides individual-level timestamped data (down to the minute) for every user interaction with the app, allowing researchers to identify individual users, export the data into a user-friendly excel file, and analyze app usage and outcomes longitudinally. The Non-Researcher dashboard provides an aggregate summary of user interactions, focusing on the amount and type of usage within the app. Such data allows program planners to analyze usage patterns and adjust app pathways, functionality, and content. This type of custom work within a readily available and free third party platform (Google Analytics) provides value to health behavior researchers, whom oftentimes are dealing with both budget and time constraints. Furthermore, it pushes the boundaries of what is possible within evaluation of mobile applications geared toward health behavior change. This presentation will review the rationale behind this work, provide a "how-to" on creating custom dashboards, and discuss results stemming from the use of these dashboards.

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C142

6:00 PM-7:00 PM

MHEALTH MEDICATION ADHERENCE AND BP CONTROL PROGRAM REDUCES EMERGENCY DEPARTMENT USE AMONG STROKE SURVIVORS

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mHealth Medication Adherence and BP Control Program Reduces Emergency Department Use Among Stroke Survivors

Stroke survivors are at high risk during the first 6 months for subsequent strokes and cardiovascular events. Poor medication adherence (MA) and blood pressure (BP) control are leading modifiable behaviors. Effective, low-cost, easily disseminated, MA/BP control programs are needed. This feasibility trial examined a self-determination theory driven iterative patient/ provider centered mHealth program. An electronic medication device and SMS/voice mail provided regimen reminders to patients. BP and MA data were wirelessly captured, sent securely to data servers and processed. Patients received timely tailored motivational and reinforcement feedback based upon adherence levels. Healthcare providers received tailored weekly MA/BP summary reports.

Twenty-four stroke patients with uncontrolled hypertension (aged 66 ± 7.3 yrs) were identified prior to hospital discharge. Electronic medical record derived BPs and emergency department (ED) use were obtained for 6 mths pre-stroke, 3 mths during Medication Adherence Stops Strokes (MASS) program vs standard care (SC) and 3 months post-program cessation. Eight received MASS and 16 received SC. MASSers were shown how and demonstrated ability to use the medication device, bluetoothed BP device and smartphone.

MASSers showed high MA (e.g., all meds taken within 1.5 hrs of designated times was .94 across trial). Comparing 6 month pre-stroke period vs 6 month period involving MASS program and subsequent followup, MASS group showed an 87.5% reduction in ED use vs a 20% reduction by the SC group. Pre-stroke period average SBP for MASS group was 153.9 vs 156.7 mmHg for SC group. MASS group showed greater average SBP reductions during the intervention (-16.9 vs $+2.1$ mmHg) and post intervention periods (-15.7 vs $+5$ mmHg, $ps < .05$).

The feasibility trial results demonstrated MASS is acceptable and useful in reducing ED use among stroke patients, likely due to increased MA and BP control. An efficacy randomized control trial is planned.

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C143

6:00 PM-7:00 PM

NEGATIVE ASSOCIATION OF TOTAL SLEEP TIME WITH PHYSICAL ACTIVITY THE FOLLOWING DAY

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Purpose: Intervention and observational studies suggest that physical activity (PA) and sleep are positively associated, but a recent investigation into daily patterns showed a negative relationship. This investigation evaluated the association between daily sleep continuity parameters and moderate to vigorous-intensity physical activity (MVPA) the following day.

Methods: We conducted secondary data analysis using data ($n=40$) from a study that collected seven days of lifestyle PA and sleep data objectively measured by research-grade accelerometers. Daily MVPA (minutes) were drawn from Actigraph wGT3X-BT. Daily sleep continuity data [sleep efficiency (%), wake after sleep onset (WASO, minutes), total sleep time (TST, hours)] were drawn from Actiwatch 2. Primary variables of interest were: daily sleep continuity parameters and the following day's MVPA. Covariates were: age, race/ethnicity, gender, body mass index (BMI), and depression. Relations between daily sleep continuity parameters and the following day's MVPA were examined by multilevel models. MVPA was log transformed to meet the normality assumption. **Results:** Participants' were 42 ± 14.0 years old, 62% non-Hispanic White, and 50% female with a mean BMI of 27.6 ± 6.2 kg/m². Seven-day MVPA average was 48.1 ± 28.3 minutes. Seven-day mean sleep efficiency was $84.7 \pm 11.2\%$, mean WASO was 37.4 ± 27 minutes, and mean TST was 6.8 ± 1.6 hours. Sleep efficiency and WASO were not associated with the following day's log(MVPA). TST was negatively associated with the following day's log(MVPA) [$\beta = -0.058$, $SE = 0.024$ ($p = .02$)] for each day. **Conclusions:** Exploratory results suggest an acute negative association of TST on the following day's PA, despite a substantial literature showing overall positive associations between these variables. When interventions aimed at improving one behavior versus the other, sleep or PA, investigators may need to consider how these factors interact. More studies are needed to investigate the complex short- and long-term relationships between sleep and PA.

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C144

6:00 PM-7:00 PM

NIH'S OPPNET INITIATIVE: FIRST-YEAR PROGRESS OF A TWO-YEAR COMPREHENSIVE EVALUATION

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ABSTRACT

NIH created the Basic Behavioral & Social Science Opportunity Network (OppNet) in November 2009 to expand its portfolio in basic inquiry that explains mechanisms and processes that inform individual & group health-related behaviors. By September 2015, OppNet provided \$73-million to 178 extramural research projects—particularly sociobehavioral topics that fall beyond or between individual IC missions. In FY2015, NIH began a two-year evaluation on the impact of OppNet-funded grants and of OppNet's processes on the scope of all NIH-funded basic sociobehavioral research (b-BSSR), FY2008-2015.

SUPPORT SUMMARY

This poster provides preliminary results of this project that assess OppNet projects and investigators on the entire NIH extramural portfolio, FY2008-2015. This project also includes a process component to answer the following four questions:

1. What are the non-OppNet processes used, NIH-wide, for soliciting, funding, and managing b-BSSR research?
2. What are the unique features of OppNet's approaches to soliciting, funding, and managing b-BSSR as compared with other processes identified?
3. What are the advantages (and disadvantages) of the processes used by OppNet, as compared with the other processes identified?
4. What are the process-related costs (e.g., personnel time and effort) and benefits (e.g., quality and character of the projects solicited, influence on NIH funding for b-BSSR more generally) associated with the OppNet approach?

The authors will present all available qualitative and quantitative results regarding the influences of OP on the b-BSSR and BSSR portfolios, profiles of funded researchers, and the overall influence of process and progress for this area of basic extramural research funded by NIH.

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CITATION AWARD WINNER
C145

6:00 PM-7:00 PM

OUTCOMES OF PATIENT CENTERED MHEALTH MEDICAL REGIMEN PROGRAM FOR AFRICAN AMERICAN AND HISPANIC UNCONTROLLED HYPERTENSIVES

Tatiana Davidson, Ph.D.¹, John McGillicuddy, MD¹, Martina Mueller, Ph.D.¹, Sachin Patel, MSc¹, Brenda Brunner-Jackson, MPH¹, Ashley Anderson, BS¹, Magaly Torres, Associates², Kenneth Ruggiero, Co-Director³, Frank Treiber, PhD²

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African Americans and Hispanics have disproportionate rates of uncontrolled essential hypertension (EH) compared to Non-Hispanic Whites. Medication non-adherence (MNA) is the leading modifiable behavior to improved blood pressure (BP) control. The *Smartphone Medication Adherence Stops Hypertension* (SMASH) program was developed using a patient centered, theory guided, iterative design process. Electronic medication trays provided reminder signals and SMS messaging reminded subjects to monitor BP with Bluetooth enabled monitors. Motivational and reinforcement text messages were received based upon levels of adherence. Thirty-eight African American (18) and Hispanic (20) uncontrolled hypertensives completed clinic-based anthropometric and resting BP evaluations prior to randomization, and again at months 1, 3 and 6. GLMM modeling revealed statistically significant time-by-treatment interactions ($p < .0001$) indicating significant reductions in resting SBP and DBP for the SMASH group vs the standard care (SC) control group across all time points. 70.6% of SMASH subjects vs 15.8% of SC group reached BP control ($<140/90$ mmHg) at month 1 ($p < .001$). At month 6, 94.4% of the SMASH vs 41.2% of the SC group exhibited BP control ($p < .0003$). Our findings provide encouraging evidence that efficacious mHealth chronic disease medical regimen self-management programs can be developed following principles of patient centered, theory guided design.

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C146

6:00 PM-7:00 PM

PATIENT ACCEPTANCE OF INGESTIBLE BIOSENSOR SYSTEMS

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Introduction: Medication efficacy is closely tied to adherence, yet "adherence" is often determined as the number of missed doses over weeks or months. With this approach, behaviors associated with nonadherence may become conditioned before a clinician can intervene. Ingestible biosensor systems (a radio frequency emitter co-formulated with a medication; a small antenna that relays the signal; and a smartphone that can deliver behavioral interventions) can provide, real time ingestion data to clinicians. Ingestible biosensors can detect nascent episodes of nonadherence and provide intervention opportunities before behaviors become habits. Little is known, however, about patients' willingness to use an ingestible biosensor. We therefore obtained formative data regarding patient attitudes towards use of this system for medication adherence. **Methods:** We conducted our study at an academic, urban emergency department (ED). Subjects were >18 , English speaking, and able to consent. They answered open-ended structured interview questions about attitudes and preferences for an ingestible biosensor system to reinforce adherence and detect nonadherence. Responses were recorded in a framework matrix and analyzed for trends. **Results:** Thirty subjects (average age: 56) enrolled. 76% reported taking daily medications, 37% reported adherence problems. 16% reported use of a wearable device. 63% owned a smartphone, of which 42% used an app to monitor health. 76% indicated willingness to use an ingestible biosensor, and 90% of subjects who self-reported medication adherence problems were willing to use and ingestible biosensor. **Conclusion:** In a small pilot study, ED patients reported their willingness to engage with ingestible biosensor system with behavioral interventions to monitor medication adherence. Additional patient-centered acceptability research with this novel technology is needed.

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C147

6:00 PM-7:00 PM

PATIENT SELF-MANAGEMENT LEARNING AT HOSPITAL DISCHARGE – AN OBSERVATIONAL MULTIPLE CASE STUDY.

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Background/Objective: Healthcare systems have much to gain in engaging patients as competent partners in their own care. Hospitals which put effort on patient education in self-management have lower re-hospitalization rates. Traditionally, this support is supposed to be provided at the hospital discharge encounter. Yet, little is known about how the information aimed to prepare patients for self-care at home are given to patients during the discharge encounter. This study aims to explore how patient understanding of self-management is supported by the hospital discharge process. **Method:** This study uses observational multiple-case study design in which discharge encounters at three wards at three hospitals in Stockholm, Sweden, were observed during 12 days. Patients, primarily with chronic diseases, and the discharging healthcare professionals were interviewed after the observed discharge encounter. Data was analysed using cross-case synthesis in which the case at each unit first were analysed using content analysis, and the analyses were thereafter compared and cross-case conclusions drawn. **Results:** The encounters were overall focused on giving information to patients, and not on ensuring patient understanding of information. Patients were regularly asked if they had questions, but patients were not prepared for discharge and described it as difficult to come up with a question during the encounters. Patients attributed their understanding of medication information to their previous knowledge. According to their standard routines, the healthcare professionals handed out a plain language discharge letter to the patients at discharge; the professional's oral information followed the structure of the letter. Since the standard templates lacked a heading for symptom management such topics was hence not discussed with patients. **Conclusion:** The information given at discharge was driven by the needs of the staff of communicating information, rather than patients' needs or level of understanding. Simple use of pedagogical education aiming to ensure patients' understanding has the potential to enhance patient knowledge and skills in self-management, whereas a systems' accountability could overlap the gaps and provide patients with confidence (trust in ones own capacity) to put knowledge into action.

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C148

6:00 PM-7:00 PM

PRECISION MEDICINE VS BROAD PUBLIC HEALTH: OUTCOMES AND TRANSLATION DIRECTIONS OF THE RESIST-DIABETES TRIAL

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The specificity of the health behavior, and responsiveness as assessed by a relevant biomarker for people with a particular condition, is a hallmark of the emergence of precision medicine. However, this degree of specificity can obscure the larger public health objective of broadly based interventions beneficial to populations such as exercise which can have multiple favorable impacts. The Resist-Diabetes study with older (50-69 yrs) adults (N=159) with prediabetes who also were overweight or obese assessed the effect of brief, 2/wk resistance training (RT) on glycemic control, first within a 3-month supervised training environment and then with an additional year of minimal contact and unsupervised training in community settings. The study's results have been primarily reported within the lens of the effects on glycemic control with RT producing a 34.1% normoglycemic rate and about 30.0% through follow-ups, and the need for the addition of another evidence-based intervention for 'non-responders' to improve the normoglycemic rate. However, this focus on 'responsiveness' based on improving one major outcome for a specific condition obscures the multiple positive outcomes that, in this case, RT can produce. For example, 22.6% of participants lost ≥ 2 kg of body fat; 37.7% reduced waist circumference by ≥ 2.54 cm; 37.2% gained ≥ 1 kg of muscle mass; 42.7% reduced systolic blood pressure by ≥ 5 mmHG; 52.7% increased upper body strength (≥ 15 lbs, 3-RM chest press); 54.1% increased lower-body strength (≥ 50 lbs, 3-RM leg press), and with these changes largely maintained through follow-up. However, at present, nationally, using a definition of training all 7 muscle groups 2/wk, only 6% of older adults perform RT. Rather than additionally focusing on the precision medicine objective of relatively narrow interventions for specific groups, more resources need to be directed to the public health imperative of actively disseminating evidence-based interventions such as RT that have multiple health benefits for virtually everyone.

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C149

6:00 PM-7:00 PM

PREDICTIVE UTILITY OF THE MINI IPIP IN CLASSIFICATION OF TYPE D BEHAVIOR PATTERN

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The Type D or "distressed" behavior pattern is characterized by two global traits: negative affectivity and social inhibition. Persons characterized by both high negative affectivity and high social inhibition have been shown to be vulnerable to many physical ailments, disease courses, and especially cardiovascular disease biomarkers. Moreover, these individuals are also more likely to engage in maladaptive health behaviors (e.g., smoking). The current study employs the use of several behavioral measures in effort to identify trait affect and personality components that may manifest as risk factors contributing to the negative health implications associated with the Type D behavior pattern. One hundred seventy-five undergraduate participants completed measures assessing psychological and personality components. The Type D Personality Scale (DS¹⁴) was used to identify individuals as having Type D behavioral pattern, whereas the Mini International Personality Item Pool (Mini IPIP) was used to operationalize trait affect and personality characteristics. Logistic regression analysis was employed to predict the probability that a participant would be classified as having Type D behavior pattern. When all five predictor variables are considered together, they significantly predict whether or not an individual is classified as having Type D behavior pattern, $\chi^2(5, N=175) = 63.90, p < .0001$. The model was able to correctly classify 65% of individuals correctly as having Type D and 83% were correctly classified as not having Type D behavior pattern, for an overall success rate of 79%. Extraversion, Agreeableness, and Neuroticism had significant partial effects. Findings highlight the predictive utility of the Mini IPIP in classifying individuals with Type D behavior pattern. Implications are discussed.

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C150

6:00 PM-7:00 PM

PROMOTING KINDNESS AND GRATITUDE WITH A SMARTPHONE AND TRIGGERS

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Previous research has shown that gratitude positively influences psychological wellbeing and physical health. These findings call for the development of technologies to promote gratitude. This paper presents a novel system leveraging smartphones to naturally embed gratitude inspiration in everyday life. Smartphone sensor data is utilized to infer optimal moments for stimulating contextually relevant thankfulness and appreciation. We hypothesize that our approach leads to reoccurring instances of grateful emotion, and consequently, improves overall wellbeing.

Our approach has two parts: A user interface (UI) for expressing or journaling gratitude, and triggers designed to inspire user actions in natural contexts. We compare three conditions including control, periodic triggering, and contextual triggering. The control group has access to the main UI but not notifications. The periodic group receives inspirational content evenly dispersed throughout the day. The contextual group receives the same content but based on social interactions, physical activity, and location changes extracted from mobile sensor data.

To evaluate the effectiveness of our gratitude intervention, we include measures of psychological wellbeing (Ryff scales of PWB), gratitude (GQ6, GRAT) and, novel to this work, an analysis of users' responses to the gratitude inspiring content and sporadic mood measurements using the phone lock screen. Not only quantitative measures, but also qualitative measures from users' interviews played an important role in evolving the system.

We have run two rounds of a randomized control trial (RCT) for evaluating our system. After the first round of the study (2 weeks, N=15), we refined both the system design and study procedure and ran a second round of RCT (5 weeks, N=29). We also improved interface usability, data logging and analysis. We also optimized measurements and added automatic measurements of multiple attributes of gratitude. We have added a novel method for mood measurement to cancel out the effect of transient mood on sense of gratitude. Finally, we have extended the length of intervention to get past the novelty effect. We report the detailed results of our RCT's, analyzing the different contexts and their effects on overall wellbeing and on the practice of gratitude.

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C151

6:00 PM-7:00 PM

PSYCHOLOGICAL DISTRESS IN FIRST TIME NEW MOTHERS: AN EXPLORATORY FEASIBILITY STUDY

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Objective: Navigating new demands and responsibilities of motherhood can be stressful. Perceived stress is associated with psychological distress. Current treatment recommendations for psychological distress are not uniformly effective for new mothers. This study explored psychological distress in first time mothers prior to implementation of unique interventions for its treatment and feasibility of study methods. **Methods:** Using a descriptive cross-sectional exploratory design, English speaking, healthy, community dwelling, first time new mothers, (N=33), were recruited from three health care agencies within 12 months of an uncomplicated birth. Psychological distress was measured via the Perceived Stress Scale (PSS₁₀), Hamilton Anxiety Rating Scale (HAM-A₁₄), Hamilton Depression Rating Scale (HAM-D₁₇), and Pittsburg Sleep Quality Index (PSQI₁₉). **Results:** Mothers age ranged from 18-32 years (M = 22.3, SD = 4.57). Ethnicity included non-Hispanic White (n = 7, 21%), Black/African American (n = 3, 9%), Hispanic/Latina (n = 21, 63%) and other (n = 2, 6%). Appraised stress (M=17.39, SD = 5.9), moderate anxiety (M = 21.55; SD = 2.96), moderate to severe depression scores (M = 20.55; SD = 2.68), and mild to moderate insomnia (M = 8.91; SD = 3.81) were reported. Correlations were found between anxiety and depression (r = .60; p < .01) and insomnia and depression (r = .53; p < .01). However, insomnia and anxiety correlations were not significant (r = .28; p < .01). Participants responded affirmatively to study methods, procedures, and instruments. **Conclusions:** Participants reported significant levels of stress, anxiety, depression, and insomnia even when experiencing an uncomplicated birth and joyful life event such as motherhood. These associations in healthy new mothers require further investigation and identification of unique treatments for amelioration of symptoms of psychological distress. Feasibility and suitability of study methods, procedures, and instruments were supported in this study.

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C152

6:00 PM-7:00 PM

PSYCHOSOCIAL PREDICTORS OF BREAST AWARENESS BEHAVIORS

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Whether women should practice breast self-examination (BSE) has been debated for decades. Current guidelines promote understanding how one's breasts normally look and feel through the practice of BSE or informal self-examination practices (referred to as breast awareness). This study investigated how women practice breast awareness behaviors, and how personal, theoretical, and psychosocial constructs influence engagement in these behaviors. Data from 626 women without a history of breast cancer were used to investigate associations between psychosocial variables (e.g., anxiety, body dissatisfaction, cancer fatalism; religious beliefs and participation) and breast awareness behaviors (BSE frequency and proficiency) within the framework of personal factors (e.g., age, knowledge of breast cancer risk factors) and health theories (Health Belief Model, Theory of Planned Behavior, and Extended Parallel Process Model) using hierarchical or multinomial logistic regressions. Women who practiced BSE excessively (weekly or daily) endorsed more body dissatisfaction and were less likely to attain clinical breast exams than women who practiced BSE at lesser frequencies (recommended, infrequent, or never). Across the sample, women who reported more body dissatisfaction demonstrated less proficiency at performing BSE. In comparison to infrequent BSE performers, those who endorsed more trait anxiety were more likely to perform BSE at a recommended frequency (monthly or trimonthly) or not at all. Lastly, more cancer fatalism was associated with performing BSE at a recommended frequency. Congruent with the literature, several variables associated with the Health Belief Model and Theory of Planned Behavior were also shown to be associated with breast awareness behaviors.

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C153

6:00 PM-7:00 PM

A COMPARATIVE ANALYSIS OF DIETARY INTAKE AMONG SMOKING, SMOKELESS, AND DUAL TOBACCO USER HOUSEHOLDS IN BANGLADESH

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Evidence suggests smokers on average have less adequate diet as compared to non-smokers. Several studies have reported noticeable dietary differences such as lower intakes of fish, fruits and vegetables for smokers. While the majority of the studies are from the developed countries, less is known about the differences in dietary intakes among the developing countries where malnutrition is a major public health challenge. Additionally, the effect of smokeless- and dual-tobacco use on dietary intakes are unknown. We are evaluating and comparing dietary intakes using the nationally representative Household Income Expenditure Survey (HIES-2010) from Bangladesh. Dietary data were collected for 14 days and comprised of 7 visits with two days recalls. The questionnaire included a comprehensive list of both ethnical and regional specific foods. Overall, 71% of the households reported positive expenditure on any form of tobacco (i.e. smoking and/or smokeless), and were considered tobacco users. Out of 12240 households, 2061 used smoking tobacco only (16.8%), 3284 used smokeless tobacco only (26.8%), and 3348 were dual-users (27.4%). Our preliminary results suggest that mean per capita daily intake of vegetables (340.5 ± 134.6 vs. 353.0 ± 159.2 g/day; $p = 0.005$), milk and dairy (38.6 ± 69.5 vs. 48.3 ± 79.8 g/day; $p = 0.0001$), and fish (65.1 ± 45.7 vs. 70.8 ± 43.7 g/day; $p = 0.0001$) were significantly lower among any tobacco users compared to non-users. However, mean per capita daily intakes of total calories (2935.0 ± 934 vs. 2812.0 ± 907 kcal/day; $p < 0.0001$) was higher among any tobacco users as compared to non-users. We will conduct food group analyses and evaluate dietary diversity among smoking-, smokeless-, and dual-tobacco user households. The project will provide evidence to support policy recommendations for addressing malnutrition burden among tobacco-user households in a developing country like Bangladesh. Addressing the issue of tobacco use in relation to malnutrition would make tobacco control a higher priority for developing countries for achieving the Millennium Development Goal 1 and post-2015 development agenda of eradicating extreme poverty and hunger.

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C154

6:00 PM-7:00 PM

A REVIEW OF WHAT WE KNOW ABOUT HOW TO COMMUNICATE THE HARMS OF CIGARETTE SMOKE CONSTITUENTS TO THE PUBLIC

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Introduction: The FDA has been tasked with communicating with the public about the harms of cigarette and cigarette smoke constituents. We reviewed the literature to provide behavioral scientists with an introduction to research on cigarette smoke constituents and how the public thinks about them. **Methods:** We systematically searched PubMed through September 2014 and also reviewed citations from included articles. We included studies that measured awareness, knowledge, attitudes, beliefs, intentions, or behavior related to cigarette and cigarette smoke constituents, cigarette additives, or "natural" cigarettes. Two reviewers independently conducted a title review and met to reach consensus and then conducted an abstract review and met to reach consensus. One reviewer read each article and determined eligibility for inclusion. Twenty percent of the articles were reviewed by a second researcher to check consistency. **Results:** Across the 33 articles that met the inclusion criteria, four central findings emerged. First, people are familiar with very few constituents in cigarette smoke. Second, people know little about cigarette additives, assume harmful chemicals are added during manufacturing, and perceive cigarettes without additives to be less harmful. Third, people would like more information about constituents. Finally, well-presented constituent information can increase knowledge and awareness, and it may change behavior. **Conclusions:** Important gaps exist in the public's understanding of cigarette smoke constituents, including key misperceptions in need of correction. Future research should further investigate the effects of educating the public about constituents in changing risk perceptions, initiation and cessation intentions, and smoking behavior.

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C155

6:00 PM-7:00 PM

"SOCIAL BELIEVERS": A NEW TARGET FOR YOUNG ADULT TOBACCO AND ALCOHOL INTERVENTION?

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Social smoking is prevalent among young adults, but few studies have characterized the beliefs that may promote social smoking. The current study leverages latent class information from a sample of ever-smokers from the Chicago metropolitan area ($n=927$). Latent class models included all available measures of social smoking, but no tobacco use measures. The four-class solution was chosen as the best fit for the data: nonsmokers (35%), social smokers (32%), smokers (28%) and social believers (5%). Social believers were characterized by their beliefs that smoking "helps you fit in with other people" and "makes it easier to be sociable with others." Among social believers, 29% reported that almost all of the people they socialize with smoke cigarettes (vs. 12% of respondents in other classes). Age, gender, race, education, and tobacco use were similar in social believers and non-social believers. Depression and anxiety were more common in social believers than in non-social believers. More than 67% of social believers reported drinking alcohol at least once a week in the past 3 months (vs. 51%). Drinking alcohol to make social gatherings more enjoyable and to be more sociable was more common for social believers than non-social believers. Over 50% of social believers reported that almost all of the people they socialize with drink alcohol regularly (vs. 26%). In addition, 65% of social believers reported that almost all of the people they socialize with get drunk at least once a month (vs. 40%). These findings identify a new subgroup that may benefit from targeted interventions addressing the common social context correlated with beliefs about social smoking and alcohol use.

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C156

6:00 PM-7:00 PM

ADHERENCE TO SMOKING CESSATION TREATMENT IN INDIVIDUALS WITH CANCER: DO DISEASE FACTORS MATTER?

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Adherence to smoking cessation treatment predicts successful abstinence. However, adherence may be especially challenging for smokers with chronic diseases. We hypothesized that disease factors would predict adherence to smoking cessation treatment among individuals diagnosed with cancer. Smokers (≥ 5 cigarettes/week) diagnosed with cancer within the past 5 years were recruited for an ongoing clinical trial of extended treatment with varenicline and behavior therapy. Data from 117 participants who completed the 12-week open-label phase were included in this study. Disease variables measured at baseline included tumor site (smoking-related vs. not), cancer stage (0-4, remission, not specified), past month treatment (surgery, chemotherapy, radiation, hormone therapy), and perceived health status (Short Form Health Survey [SF-12]). Abstinence was bioverified at Week 12. 12-week adherence was determined by 80% compliance (medication: 132 of 165 pills; behavior counseling: 4 of 5 sessions). Logistic regression was used to assess the relationship between disease variables and adherence outcomes. Overall, 47.0% of participants were medication adherent and 74.2% were counseling adherent. Adherence to medication was positively associated with adherence to counseling, and both indices were positively associated with bioverified abstinence at Week 12, $ps < .001$. SF-12 scores were associated with medication adherence (OR: 1.12, 95% CI: 1.03-1.22) and counseling adherence (OR: 1.12, 95% CI: 1.03-1.22), $ps < .05$. Other disease variables were not associated with either measure of adherence ($ps > .05$). In sum, adherence to smoking cessation treatment among individuals with cancer was similar to healthy populations. Of the disease factors, only perceived health status predicted adherence. Perceived health status may be related to self-efficacy, which is an important factor for successful smoking cessation. Findings indicate that disease factors should not be barriers to patients with cancer being referred to, enrolled in, and ultimately successful in smoking cessation treatment.

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C157

6:00 PM-7:00 PM

ADOLESCENT INTENTIONS AND WILLINGNESS TO SMOKE CIGARETTES: EVALUATION OF A DUAL PROCESS MODEL WITH DIVERSE YOUTH

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Over 80% of cigarette smoking is initiated during adolescence making identification of factors associated with adolescent smoking critical for tobacco prevention and cessation efforts. Using a modified dual-process model of health behavior, the aim of the current study was to examine the association of adolescent biopsychosocial factors with cigarette smoking intentions, willingness, and initiation in a longitudinal sample of Black, Latino, and White adolescents. Using complex sampling, data were collected from youth at ages 10, 12, and 15 from three urban locations. Measures included pubertal status, self-control, self-esteem, depression, parental monitoring, parent and peer smoking status, perception of neighborhood risk and tobacco availability, intentions and willingness to smoke, and cigarette smoking initiation ($N = 3,789$; 51% female). By age 15, over 30% of the sample reported having smoked a cigarette. Structural equation modeling was used to test the model with fit statistics indicating an adequate model fit: RMSEA = 0.03 [0.02, 0.03]; CFI = 0.70. After controlling for gender, race/ethnicity, and parent level of education level, results indicated that adolescent self-esteem, level of parental monitoring, parent smoking status, and perception of tobacco availability at 10 and 12 years of age predicted cigarette smoking by age 15 ($p < .05$). Both intentions and willingness to smoke at age 12 (but not at age 10) also predicted cigarette smoking by age 15 ($p < .01$). Unlike some previous findings, no association was found between smoking initiation and adolescent pubertal status, self-control, depression, and perception of peer smoking and neighborhood risk. Findings indicate that dual-process theories may be very useful for predicting adolescent cigarette smoking. However, more longitudinal research is needed to reach a clear consensus on which factors during early adolescence are predictive of smoking initiation among diverse youth.

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C158

6:00 PM-7:00 PM

ASSOCIATIONS BETWEEN PRACTITIONER PERSONALITY AND CLIENT QUIT RATES IN SMOKING CESSATION BEHAVIORAL SUPPORT INTERVENTIONS

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Background: There is wide variation in the success rates of practitioners employed to help smokers to stop, even once a range of potential confounding factors has been taken into account. Practitioner personality may be one factor that explains this variation. **Aim:** To examine if stop smoking practitioners' scores on dimensions of personality were associated with clients' four-week biochemically-verified quit status. **Method:** Data from 1,958 stop-smoking treatment episodes in two English stop-smoking services involving 19 stop-smoking practitioners were used in the analysis. The outcome measure was clients' biochemically-verified quit status 4 weeks after the target quit date. The five dimensions of personality, as assessed by the Ten-Item Personality Inventory, were included as predictor variables: openness, conscientiousness, agreeableness, extraversion, neuroticism. A range of client and other practitioner characteristics were used as covariates. A sensitivity analysis was conducted to determine if managers' ratings of practitioner personality were also associated with clients' quit status. **Results:** Multi-level random intercept models indicated that clients of practitioners with a higher extraversion score had greater odds of being abstinent at four weeks (self-assessed: OR = 1.10, 95% CI = 1.01 – 1.19; manager-assessed: OR = 1.32, 95% CI = 1.21-1.44). **Discussion:** More extraverted stop smoking practitioners appear to have greater success in advising their clients to quit smoking. Further research is needed to understand the mechanisms by which the extraversion dimension is potentially affecting the practitioner-client interaction. Findings need to be confirmed in larger practitioner populations, other stop-smoking services and in different smoking cessation contexts. If confirmed, specific training may be needed to assist more introverted practitioners to help smokers to stop.

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C159

6:00 PM-7:00 PM

ATTITUDINAL AND BEHAVIORAL DIFFERENCES BETWEEN COLLEGE SMOKERS WHO DO AND DO NOT IDENTIFY THEMSELVES AS "SMOKERS"

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The majority of college students who smoke cigarettes do not identify themselves as smokers (Berg et al., 2010; Levinson et al., 2007). Non-identified smokers (NIS) answer no to the question, "Do you consider yourself a smoker?" but yes to the question, "Have you smoked at least one cigarette in the past month?" As NIS are less likely to respond to traditional anti-tobacco appeals, new approaches may be needed that are tailored to their unique motivations and views about cigarettes (Berg et al., 2010; Leas, Zablocki, Edland, & Al-Delaimy, 2014). However, few studies have examined the behavioral or attitudinal differences between these NIS and more traditionally self-identified smokers. Early evidence indicates that compared to self-identified smokers, NIS smoke fewer cigarettes, are less likely to have attempted quitting, and are less likely to have friends or romantic acquaintances that smoke (Levinson et al., 2007).

The current study surveyed the attitudes of 904 college students (62.8% female) from two colleges in the northeastern U.S. to examine behavioral and attitudinal differences between self-identified smokers and NIS. Of those surveyed, 136 students (15.0% of the total survey) reported smoking at least one cigarette in the previous 30 days. Of that total, 79 (58.1%) students answered "no" to the question, "Do you identify as a smoker?" placing them in the NIS category and 57 (41.9%) answered, "yes" (self-identified smokers). A greater percentage of women were NIS (65.9%) than men (45.3%). Compared with self-identified smokers NIS smoked fewer cigarettes in the last month, believed they were less at risk of developing health problems, were more confident that they could quit, viewed secondhand smoke as more of a health risk, and felt more positive toward a campus-wide smoking ban.

As NIS represent just over half of all college smokers, and since, by definition, they do not identify as smokers, these cigarette users may be immune to traditional smoking cessation interventions. Based on the current findings we recommend that college health directors craft messages specifically targeting NIS with the goal of raising their self-perceived risk and increasing their motivation to quit smoking cigarettes altogether.

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C160

6:00 PM-7:00 PM

COMPARING ENGAGEMENT AND ADHERENCE BETWEEN STUDY-PROVIDED AND PERSONAL CELL PHONES IN A SMS TEXT-BASED CESSATION INTERVENTION

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Despite the commonly known evidence of the harms, as many as half of women who smoke continue to do so during pregnancy. Cessation interventions for pregnant smokers have had only modest success and are not easily disseminable. Using SMS (Short Message Service) text messaging to deliver a cessation intervention has the potential for efficacy and widespread dissemination. One obstacle to delivering a text-based intervention is participants' access to cell phones with texting plans. Baby Steps is an ongoing, two-arm randomized controlled trial comparing SMS Scheduled Gradual Reduction (SGR) Messages plus SMS Support Messages (n=361) to Arm 2, SMS Support Messages alone (n=361). Women are recruited from public and private obstetrics clinics in Central NC and at Womack Army Medical Center in Ft. Bragg, NC. At enrollment women are given the choice to use their own phone or a study phone with unlimited texting (no voice or data). This paper explores differences in adherence/use/engagement between women who opted to use their own phone to receive study texts (n=41) and women who opted to use a study phone (n=62). Women who are African American, less educated, multiparous, receiving care at a public clinic, and more dependent on nicotine were more likely to select a study phone. Compared to women who selected their own phone, women who used a study phone appeared to be more likely to report reading all texts (87% vs. 63%), and to rate the texts as helpful (1-7) for quitting (m=5.1 (1.1) vs. 6.3 (1.0)). Women who opted to use a study phone reported having a more positive response to the intervention messages than women who opt to use their own phone. Response rates for messages requiring a response were comparable during the first 2 weeks of intervention (W1: 70% vs 76%, W2: 73% vs 73%) Women who opted to use their own phone appear to have higher response rates during the 3rd week of intervention (W3: 67% vs 78%). Preliminary findings suggest that women who opt to use a study phone report greater engagement with intervention messages than women who opt to use their own phone. However, adherence to messages requiring a response appears may be higher among women using their own phone. Although providing phones adds to the cost of interventions, it could increase engagement among participants who may be hard to reach.

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C161

6:00 PM-7:00 PM

DO SPECIFIC RECENT ADVERSE EVENTS PREDICT STAGE OF SMOKING INITIATION AMONG MARYLAND UNDERAGE HIGH SCHOOL STUDENTS?

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Nearly 90% of daily cigarette smokers report having started before adulthood. Understanding how adverse events contribute to smoking initiation can inform prevention efforts. We still have much to learn about the relationship between recent adverse events experienced by youth and the process of smoking initiation among adolescents. Using data from the 2013 Maryland Youth Tobacco and Risk Behavior Survey (MYTRBS), a classroom-based survey of 53,785 public high school youth, we examined the relative risks recent adverse events might have on smoking initiation among underage high school students. Three different types of adverse events were examined: physical violence, dating violence, and bullying. Stages of Smoking Initiation (SOSI) were derived from adolescent smoking behaviors and attitudes to approximate the following initiation stages: 1) Protected (approximation of Precontemplation), 2) At-Risk (approximation of Contemplation), 3) Preparation, 4) Action, and 5) Maintenance. Analyses controlled for the effects of gender and age. Using multilinear logistical regression on a weighted estimate of over 229,000, we found that the presence of each type of negative event led to a higher likelihood of smoking initiation. Specifically, the more adverse events youth experienced in each area, the greater the likelihood of students progressing to later stages of initiation increasing in a step-wise fashion. For example, the presence of bullying increased the risk of students being further along in the initiation stages relative to being in the Protected stage (At Risk, OR = 1.22, $p < .001$; Preparation, OR = 1.61, $p < .001$; Action, OR = 1.92, $p < .001$; Maintenance, OR = 2.45, $p < .001$). These results, focused on a process-perspective, demonstrate that experiencing adverse events increases the risk of adolescents moving through the initiation process and becoming regular smokers. Therefore, we recommend that monitoring and addressing adverse events with high school students include messaging to prevent regular cigarette use.

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C162

6:00 PM-7:00 PM

DO YOUNG ADULTS MAKE INFORMED CHOICES ABOUT SMOKING? RESULTS AND IMPLICATIONS FROM A MIXED-METHODS STUDY

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Background: When lobbying against tobacco control policies, the tobacco industry claims that people who smoke have made an “informed adult choice” to do so. Although in the past most smokers were not adults when they started, in recent years smoking uptake has increasingly occurred among young adults. **Method:** With reference to research on young adult smoking and risk perception, we adapted a framework of criteria for informed choice and developed two studies focusing on 18–25 year old New Zealanders. First, 15 in-depth qualitative interviews with smokers who had started since the age of 18 and, second, an online survey of 522 people including 185 current smokers. **Findings:** Both the qualitative and quantitative studies found widespread general awareness of smoking as a risky behaviour, but lower understanding of the more detailed implications of smoking-related diseases. Participants underestimated addiction and were overly optimistic about being able to avoid harm. In the qualitative study, participants initially avoided personalising risks because they saw smoking as a short-term activity unique to their current life phase. Many had passively adopted smoking behaviour without consciously deciding they wanted to smoke. The online survey found that those who smoked or were susceptible to smoking were more prone to impulsive and risk-taking decision making, and took many of the health risks less seriously. **Conclusion:** We propose a modified framework to measure informed choice, including the decision-making process and emphasising understanding of addiction. Environmental interventions that make smoking less easy to adopt unthinkingly are likely to be needed if young adults are to make fully informed choices before taking up smoking.

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C163

6:00 PM-7:00 PM

EXECUTIVE FUNCTION FAILS TO PREDICT SMOKING OUTCOMES IN A CLINICAL TRIAL TO MOTIVATE SMOKERS TO QUIT

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Background: Executive function (EF) has been touted as an important mediator of health outcomes; it has been hypothesized that those with higher EF succeed in turning their intentions into actual health behaviors. Some prior studies have shown associations between various EF indicators and smoking cessation; however experimental and longitudinal studies have yielded mixed results and few studies have examined whether higher EF is predictive of outcomes in smoking cessation treatment. Fewer still have done so *prospectively* in a large trial. **Purpose:** To determine if EF would predict quit attempts and smoking cessation among smokers participating in large randomized trial evaluating the efficacy of motivational interventions for encouraging smoking cessation. **Methods:** Participants (N=255) completed a baseline assessment that included a cognitive battery to assess EF (Trail Making Test B, Stroop Task, Controlled Oral Word Association Test). Participants were then randomized to 4 sessions of Motivational Interviewing or Health Education or a single session of Brief Advice to quit. Follow-up data on quit attempts and cessation were collected at weeks 12 and 26. **Results:** After controlling for IQ and prior quit attempts, regression analyses indicated that none of the EF measures were significant predictors of quit attempts or cessation (all p 's > 0.16). **Conclusions:** Models of health behavior that emphasize EF as a mediator of the relationship between intentions and behavior were not supported. The existing support for EF's association with smoking behavior may be misleading because studies do not consistently use the same measures of EF and it is common for studies to use multiple indicators but find significant associations with only a few of the indicators.

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C164

6:00 PM-7:00 PM

EXPERIMENTALLY-MANIPULATED DISGUST AND HEALTH ANXIETY DETERMINES SMOKING BEHAVIORS IN THE LABORATORY

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Background: Both epidemiological data and laboratory-based studies suggest that the use of graphic images on tobacco packaging may elicit emotions and discourage smoking. To date, however, studies have not directly manipulated emotions and have relied on self-report rather than behavior as a measure of tobacco avoidance. The current study manipulated both disgust and health anxiety and tested whether they reduce smoking related cravings and behavior in the laboratory. **Method:** 70 nicotine-deprived smokers (63% female) were randomized to disgust, health anxiety, or control groups before completing smoking-relevant behavioral tasks including image sorting and a fake cigarette purchase task while rating cravings at several points. Mixed model ANOVAs in which dependency and condition served as between-person factors and time as a within-person factor tested effects. **Results:** Although there were no differences in the image rankings as a function of condition, ANOVAs denoted an interaction between condition and time, such that cravings were reduced in both experimental conditions and remained lowered throughout the laboratory period ($p < .05$). However, while self-reported willingness to pay for tobacco was reduced in the health anxiety condition ($p < .05$), actual purchase behavior was not. In fact, willingness to spend money for an immediate smoking opportunity was lower in the disgust ($p < .05$) but not anxiety conditions and disgust participants were more likely to take a smoking cessation pamphlet at the end of the study ($p < .05$). **Conclusions:** This report represents among the first studies to experimentally manipulate the emotions thought to underpin the impact of graphic tobacco images. Analyses suggest that smoking behaviors are causally impacted by both disgust and health anxiety but that these two emotions may have different effects on behavioral versus self-report measures of smoking relevant processes.

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C165

6:00 PM-7:00 PM

EXPLORING HOW PEER NETWORK POSITION AFFECTS NICOTINE DEPENDENCE AMONG ADOLESCENT SMOKERS

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Where adolescents are located within their school peer networks has implications for smoking behavior. We define peer network position in two ways: by social status and by social embeddedness and examine relationships between these peer network positions and nicotine dependence among adolescent smokers. In addition, we examine psychological mechanisms that could explain relationships between these structural indicators of friendship patterns and nicotine dependence. Specifically, adolescents may smoke to enhance coping responses to common stressors (coping expectancies) or to benefit in social situations (social expectancies). Participants were a sample of smokers ($n = 520$) from six high schools (grade 9–12) 49.2% of whom were male and 65.4%, 20.2%, 2.5%, and 7.5% of whom were white, African American, Latino, and from other racial/ethnic backgrounds, respectively. They completed a survey about their health behaviors and provided sociometric nominations of friends used to construct school-wide peer social networks. We computed normalized in-degree centrality and the clustering coefficient to measure social status and social embeddedness, respectively. A continuous measure of nicotine dependence based on the Fagerström Test for Nicotine Dependence was used as the outcome variable. Composite variables for social and coping expectancies of smoking were created from participants' responses to six original measures of smoking motivations. We computed network variables and conducted all analyses in R (v. 3.2.0). Preliminary results from multiple regression analysis demonstrated support for the expected relations between coping and social expectancies of smoking and nicotine dependence. Depending on their social relations, adolescents may have different psychosocial resources relevant to their smoking behaviors that influence how they respond to anti-smoking interventions. As a result, studying how structural aspects of friendship networks influence smoking behaviors is important to developing effective interventions for young smokers.

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MERITORIOUS AWARD WINNER

C166

6:00 PM-7:00 PM

EXPOSURE TO ELECTRONIC CIGARETTES VIA SOCIAL MEDIA AMONG COLLEGE STUDENTS

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Objective and Purpose: In the United States, e-cigarettes are the fastest growing form of tobacco use among young adults. In addition to marketing by e-cigarette brands on social media, platforms could provide an outlet for the promotion of e-cigarette use by individuals. The objective of this study is to examine electronic cigarette visibility on social media platforms by investigating self-posts, peer-posts, and advertisements in the last 6 months. **Methods:** Data from 290 individuals was obtained via audience clicker-response questionnaires completed by students attending two entry-level courses at a large, urban university. Survey questions were adapted from the National College Health Assessment (NCHA) and the Facebook Alcohol Questionnaire and included: demographic, cigarette/e-cigarette use, perceptions of use, and social media posts about e-cigarettes (Facebook, Instagram, Twitter, and YouTube). Logistic regression models controlling for gender and race were assessed for e-cigarette use and self-posting, peer posts, or advertisements on any of the social media platforms. **Results:** Overall, 30.2% reported previous e-cigarette use while 9.3% had used e-cigarettes in the last 30 days. Over 84% perceived that their 'typical' peer had used an e-cigarette in the last 30 days and 53% used an e-cigarette for the flavoring. Gender differences in use were present for both e-cigarette and cigarette use ($\chi^2=8.65$ ($p=0.003$), $\chi^2=3.87$ ($p=0.049$)). Only 10% had self-posted about e-cigarettes; however, between 44% had seen a post about e-cigarettes and 48% had seen an advertisement in the last 6 months. Those who self-posted about e-cigarettes were 4.72 (95% CI 1.08–20.7) times more likely to have used an e-cigarette in the last 30 days. Those who saw peer posts about e-cigarettes were 6.01 (95% CI 2.08–17.3) times more likely to have used an e-cigarette in the last 30 days. Lastly, those who saw an advertisement about e-cigarettes are 2.96 (95% CI 1.08–8.09) times more likely to have used an e-cigarette in the last 30 days. **Discussion:** The strong relationship between exposure to e-cigarette products via social media and individual use encourages future research into visibility of e-cigarettes on social media as well as the use of THC or marijuana oil among young adults.

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C167

6:00 PM-7:00 PM

HEALTH BEHAVIORS AMONG COLLEGE STUDENTS WHO SMOKE HOOKAH

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Background: Hookah is a relatively new form of tobacco use in the United States that is becoming increasingly popular among college students. Despite its popularity, little is known about health promoting and health risk behaviors among hookah users in college. **Methods:** College students ($N=228$; mean age 20.9±1.9; 68% female) completed an anonymous online survey that included hookah use and frequency questions. Health promoting items included physical activity (measured by the IPAQ) and fruit and vegetable intake (measured by NCI fruit and vegetable screener). Health risk behaviors included smoking, e-cigarette use, dieting (measured by the Children's Eating and Attitudes dieting subscale), and sedentary coping strategies (APA Stress in America survey). **Results:** Hookah smoking was endorsed by 58.7% of sample. Nearly 70% participants who reported smoking hookah smoked once or twice in the past year. Specific to health risk behaviors, hookah users were significantly more likely to report smoking cigarettes ($\chi^2=30.93$; $p < .01$) and e-cigarettes ($\chi^2=25.5$; $p < .001$). Prevalence of dieting was similar among hookah users and non-hookah users. Both hookah users (77.8%) and non-hookah users (75.5%) endorsed using sedentary behaviors to cope with stress. There was a trend for hookah users to have eaten one less fruit or vegetable per week (mean=4±2.5) than non-hookah users (mean=5±3.7) [$F(1,227)=3.07$; $p=.08$]. Hookah users reported 50 minutes less physical activity per week (mean=210 mins/wk) than non-hookah users (mean=260 minutes/ per week), although this difference was non-significant. **Discussion:** In some areas there were important differences between hookah users and non-hookah users in this college sample, in particular with greater use of products such as cigarettes and e-cigarettes. More research is needed to understand reasons for hookah use and preference for flavored hookah products are associated with other health behaviors. Perceptions of the health risks of hookah should also be explored in order to inform campus prevention and awareness programs.

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C168

6:00 PM-7:00 PM

AN OUTCOMES EVALUATION OF ARMY WELLNESS CENTER STRESS MANAGEMENT EDUCATION

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Background: Army Wellness Centers (AWC) provide primary prevention services, including stress management education to Soldiers, family members, retirees, and civilian employees at 21 facilities worldwide. The AWCs have a standardized protocol for stress management education that involves biofeedback and training in evidence-based stress management techniques. The study primary aim was to conduct an initial exploration of outcomes of AWC stress management programming. **Methods:** A cohort of AWC clients who had at least one stress management session ($n = 1689$) was followed prospectively throughout FY14. Clients completed questionnaires, including the Perceived Stress Scale (PSS), prior to their first session and about every 30 days thereafter. Heart Rate Variability (HRV) biofeedback data were collected at every session. Mixed-design ANCOVAs were used to evaluate change in HRV and PSS from initial to most recent measurement. Age, gender, occupational status, goal to reduce stress, time between sessions, and number of sessions were also entered in the models. **Results:** There was a significant interaction between time and goal, Wilks' Lambda = .96, $F(1, 282) = 12.32$, $p < .001$, such that those with a goal to reduce stress had a significant decrease in PSS from initial ($adj M = 20.25$) to most recent measurement ($adj M = 18.03$), $t = 5.32$, $p < .0001$, $d = .34$. There was also a significant interaction between time and occupational status, Wilks' Lambda = .98, $F(1, 282) = 6.39$, $p = .01$, such that Soldiers seen in the AWC did not have a significant reduction in PSS from initial ($adj M = 18.19$) to most recent measurement ($adj M = 17.68$), $t = 1.08$, $p = .28$, $d = .07$. Analyses of HRV data failed to reach significance. **Conclusions:** Stress management education provided by AWCs improved perceived stress for those with a goal to reduce stress, but did not reduce Soldiers' perceived stress. Soldiers may benefit from refinement of AWC stress management programming.

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C169

6:00 PM-7:00 PM

CARDIAC AUTONOMIC CONTROL IN METABOLIC SYNDROME: FINDINGS FROM A PILOT INVESTIGATION

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Metabolic syndrome (MetS) comprises metabolic abnormalities that substantially increase risk for chronic illnesses. Stress is closely linked to MetS; pathophysiological models often include dysregulated physiological and psychological stress responses. In an effort to further clarify the relationship between autonomic dysregulation and metabolic abnormalities, we used ambulatory impedance cardiography to examine indicators of cardiac autonomic control (CAC) in a sample of 50 adult primary care patients with and without MetS ($N=25$). Indices of independent sympathetic and parasympathetic cardiovascular control were assessed in the context of two psychological stressors (i.e., mental arithmetic and a health-related interview) and compared between experimental groups. We also calculated *interdependent* CAC measures, including cardiac autonomic balance (CAB; a measure of SNS and PNS reciprocity) and cardiac autonomic regulation (CAR; a measure of SNS and PNS co-activity) for additional between-group comparisons. These measures were then used to predict health status, and were examined in relation to self-reported treatment adherence and health behavior. Primary results revealed significant differences patterns of CAC between the two experimental groups. In particular, we noted greater sympathetic reactivity in MetS participants when discussing diet and medication concerns, $F(14, 29) = 2.348$, $p = .025$, partial $\eta^2 = .531$. In addition, CAR scores were higher among Met patients when discussing medication concerns, indicating greater co-activity in sympathetic and parasympathetic activity during this task, $F(4, 172) = 4.641$, $p = .001$, $\eta^2 = .504$. We also found that CAB scores were lower among MetS patients when discussing daily stressors, indicating imbalance between sympathetic and parasympathetic activation during this task, $F(4, 172) = 2.619$, $p = .037$, $\eta^2 = .404$. Additional findings offer preliminary evidence of a relationship between CAC and quality of life, and between CAC and medication adherence. These results provide further evidence that stress may be implicated in the maintenance of MetS through variations in CAC. Implications for future research are discussed including focus on prospective data collection in the service of enhancing diagnostic procedures.

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C170

6:00 PM-7:00 PM

CARE FOR THE CAREGIVERS: CLERGY BURNOUT AND THE ROLES OF MINISTRY DEMANDS, MEANING-MAKING, & POST-TRAUMATIC GROWTH

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Clergy burnout is increasingly recognized as a major occupational hazard. Often, spiritual leaders are the "first responders" when parishioners face difficulty. Hill's (1958) ABC-X model of family stress provides a framework for examining whether a mismatch between the minister's resources and environmental requirements transform ministry demands into stressors. Hypotheses explored how ministry demands may contribute to clergy burnout, and the extent to which post-traumatic growth and/or meaning making might impact this process. A sample of New Orleans pastors ($N = 20$) who had experienced Hurricane Katrina and its aftermath completed a questionnaire including the following measures: Post-Traumatic Growth Inventory, Integration of Stressful Life Events Scale, Maslach Burnout Inventory, and Ministry Demands Inventory. Results indicated that there was a positive relationship between ministry demands and burnout (i.e., depersonalization and emotional exhaustion) that was moderated by both post-traumatic growth and meaning-making. Post-traumatic growth was found to have a significant interaction effect on the relationship between impact of ministry demands and depersonalization, $\beta = -.86$, $\Delta R^2 = .43$, $p < .01$. For pastors who experienced lower levels of post-traumatic growth, increased ministry demands were associated with increased depersonalization; however, for pastors who had higher levels of post-traumatic growth, increased ministry demands were not associated with increased depersonalization. Meaning-making also moderated the relationship between the impact of ministry demands and emotional exhaustion, $\beta = .66$, $\Delta R^2 = .28$, $p < .01$. In contrast to the findings for post-traumatic growth, participants who exhibited high meaning-making experienced greater levels of emotional exhaustion as the impact of ministry demands increased, while increased ministry demands were not associated with higher emotional exhaustion for those who exhibited lower levels of meaning-making. These results suggest that while post-traumatic growth may serve a protective function against ministry stressors, higher meaning-making may increase the risk of burnout.

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C171

6:00 PM-7:00 PM

GENRES OF VIDEO GAMEPLAY AS A PREDICTOR OF SOCIAL SUPPORT, ANXIETY, AND STRESS

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The relationship between violent oriented video games and detrimental side effects to their players is debatable. To determine the potential negative side effects of video games, this study explored whether different types of video games were associated with perceived stress, social support, anxiety, and gender differences among playing habits. Surveys were administered to undergraduate students ($N=163$ M Age =20.3) to examine differentiating levels of perceived stress (PSS-10), social support (MSPSS), and anxiety (STAI) based on the genre of video game played most per week. Genre was examined based upon content of the game. ANOVAs and t-tests were utilized to examine group differences across dependent variables of interest. Analyses controlled for variables (year in college and age) found to be significantly associated with the outcomes of interest. Of those that played video games, participants indicated which genre they played most per week, then hours within that genre were categorized into three groups, low, moderate, and high, based on number of hours played. Males reported playing significantly more video games per week than females ($p=.003$), and participants who played MMORPGs (massively-multiplayer online role-playing games) most often reported significantly less perceived social support ($p=.006$) as compared to those who reported playing RPGs (role-playing games), Arcade, and Sports games. There were no differences between RPGs, Arcade, and Sports outcomes in regards the dependent variables of interest. Older participants and college seniors reported significantly less anxiety, and participants who played video games trended towards higher anxiety scores than those who did not ($p=.08$). In addition, participants who indicated playing MMORPGs showed lower perceived social support than non-gamers ($p=.049$), which contradicted previous literature. The results of this study suggest that video games may not be as detrimental on stress and anxiety, and, in fact, gamers may play video games as a way to cope with anxiety or stress. Gender stereotypes may play a role in the gender differences in video game participation.

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C172

6:00 PM-7:00 PM

GROUP-BASED TRAJECTORY ANALYSIS OF EMOTIONAL SYMPTOMS AMONG SURVIVORS AFTER SEVERE TRAUMATIC BRAIN INJURY (TBI)

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Objectives: Depression, anxiety and life satisfaction are fairly common emotional outcomes after TBI. However, there is limited literature available on the analysis of them in the population of post-TBI over time and interrelationship between them. The purpose of this study was to characterize distinct patterns of depression, anxiety and life satisfaction over 24 months after severe TBI and evaluate the interrelationship of different trajectory groups among them as well as associated subject's characteristics. **Methods:** This prospective study used longitudinal data collected of severe TBI survivors (N=129). In addition to demographics, subject's depression, anxiety and life satisfaction were collected at 3,6,12, and 24 months post-injury. A group-based trajectory model was performed to identify distinct longitudinal patterns of depression, anxiety and life satisfaction. The interrelationships of distinct trajectory groups were examined using Chi-square test. Logistic regression model was used to examine the predictors of different emotional symptom trajectories. **Results:** Group-based trajectory model identified 2 distinct patterns of each of 3 outcomes: constantly low and constantly high depression group (70.4% vs 29.6%), constantly low and constantly high anxiety group (69.1% vs 30.9%) and low-decreasing and high-stable life satisfaction groups (56.3.1% vs 43.7%). The strong pair-wise association was observed among trajectory group membership of depression, anxiety and life satisfaction. Subjects with more injury severity were more likely to belong to the high-stable depression group, while there were no significant association between gender, race, education, marriage status and distinct depression trajectory groups. **Conclusions:** Group-based trajectory model revealed patterns that have not been fully explored on emotional symptoms among severe TBI survivors. There appear to be distinct trajectory patterns for depression, anxiety and life satisfaction. There was strong interrelationship among those emotional symptoms. The findings may provide us new knowledge to design and implement targeted interventions on emotional disorder for the population after severe TBI.

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C173

6:00 PM-7:00 PM

IMPACT OF PARENT STRESS AND ASTHMA MANAGEMENT BEHAVIORS ON CHILD HEALTHCARE UTILIZATION FOR ASTHMA: A LONGITUDINAL ANALYSIS

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Background: Asthma is a prevalent chronic condition with excess disease burden in school-aged, minority children from low income inner-city communities. Conceptualized within a nursing and socio-ecological framework, the purpose of this secondary analysis of a prospective study of inner-city school-aged children with asthma (School Inner-City Asthma Study [SICAS]) was to examine associations between characteristics of children and parents, parents stress, parent asthma management behaviors (AMB) and emergency (ED) visits for asthma. **Methods:** The sample included 351 school-aged children (7.9 years old, SD= 1.9 years; 53.0% male; 95.7% minority). Parents reported their own perceived stress (measured using the Perceived Stress Scale) and AMBs (reflect the national guidelines for asthma management) at baseline; ED visits were measured quarterly at follow-up. Generalized estimation equations were used due to the repeated quarterly wave nature of the data. Step-wise hierarchical regression isolated the paths connecting income, education, and stress to the main outcomes. **Results:** The majority of parents (63.5%) reported moderate to high stress. Controlling for other participant characteristics, income and education were directly related to parent stress in this inner-city population. Parent stress also had a direct positive effect on child ED visits for asthma (OR=1.68, p=.014), which persisted when potential mediators were added to the model. Poor parent AMB of missing routine appointments (OR=2.32, p=.025) and pests in the home (OR=1.51, p=.001) also raised the likelihood of ED visits. **Conclusions:** Low income and educational attainment raise parental stress that leads to costly ED visits for inner city children. The effects of greater stress are reinforced when parents miss routine medical appointments for their child and fail to control pests in the home. More research is needed on how to overcome stressful home environments. Clinical interventions to facilitate increased routine visits and policy change for inner-city household pest control will help reduce ED visits related to asthma.

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C174

6:00 PM-7:00 PM

PARENTAL STRESS, PERCEIVED STRESS AND SOCIAL SUPPORT: ASSOCIATIONS WITH OBESITY AND PARENTING STYLES

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Cross-sectional and longitudinal research has shown relations between parental stress and child obesity. The current study sought to extend this work by comparing relations among stress, social support, and weight variables overall and specifically within a subset of participants whose children were in the obese range and by exploring for gender differences. Participants were mothers (n=658) and fathers (n=346) of children ages 5-15. Parents reported anthropometric data and completed psychometrically-established measures of perceived stress, parental stress, social support, and parenting styles. Overall, perceived stress had a small, positive relation with parent BMI (r=.09), and appraisal-coping had a small, negative relation with child BMI percentile (r=-.08). Authoritarian and permissive parenting styles were positively related to stress variables (r=.27 to .45) and negatively related to social support variables (r=-.22 to -.31). Authoritative parenting was negatively related to stress variables (r=-.13 to -.43) and positively related to social support variables (r=.20 to .26). Among parents with children in the obese weight range, the same pattern of results was found. Examination of parent gender, however, revealed that authoritarian parenting was more strongly correlated with child BMI for fathers than mothers (p < .05), as were stress and social support variables with parent BMI (ps < .05). Results suggest a limited role for stress and social support in child and parent weight, potentially through parenting style. There is a need for further research to distinguish forms of stress and clarify its role, particularly related to parenting style. Findings related to parenting style are surprising because much of the literature on parenting and obesity has focused on mothers, yet this study found weaker relations in mothers than fathers. Further research on individual characteristics and situation-based characteristics for parenting styles could help clarify the role of perceived stress, parental stress, and social support in childhood obesity.

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C175

6:00 PM-7:00 PM

RELATIONSHIP BETWEEN PSYCHOSOCIAL STRESS AND ALLOSTATIC LOAD: FINDINGS FROM THE MIDUS STUDY

Stephanie R. Reading, Ph.D., M.P.H.¹, Arun S. Karlamangla, M.D., Ph.D.², Dallas T. Swendeman, Ph.D., M.P.H.³, Beate R. Ritz, M.D., Ph.D.⁴, Tara L. Gruenewald, Ph.D., M.P.H.⁵, Natalie Slopen, Sc.D.⁶, David R. Williams, Ph.D., M.P.H.⁷, Brandon Koretz, M.D.², Teresa E. Seeman, Ph.D., M.S.²¹Department of Research and Evaluation, Kaiser Permanente of Southern California, Pasadena, CA; ²Division of Geriatrics, David Geffen School of Medicine at University of California Los Angeles, Los Angeles, CA; ³Department of Psychiatry and Biobehavioral Sciences, University of California Los Angeles, Los Angeles, CA; ⁴Department of Epidemiology, Jonathan and Karin Fielding School of Public Health at University of California Los Angeles, Los Angeles, CA; ⁵Davis School of Gerontology, University of Southern California, Los Angeles, CA; ⁶Department of Epidemiology and Biostatistics, University of Maryland School of Public Health, College Park, MD; ⁷Department of Social and Behavioral Sciences, Harvard T. Chan School of Public Health, Boston, MA

PURPOSE: Allostatic load has been proposed as a biological construct reflecting multi-system physiological dysregulation leading to adverse health. Stressful experiences have been hypothesized to increase allostatic load, however, empirical evidence linking the experience of stress to allostatic load remains limited. We evaluated the associations between allostatic load and a summary index measure of psychosocial stress and its eleven domain specific sub-scales: psychological and physical work stress, work-family spillover stress, perceived inequality, discrimination, past year problems in the immediate family, stressful life experiences and relationship stress, neighborhood stress, current financial stress and early life stress in a national random household examination of Americans. **METHODS:** Data were obtained from 1,182 individuals, ages 34-84, from the Midlife Development in the United States (MIDUS) study. Multiple questionnaires were completed to assess the psychosocial stress experiences and biological specimens were collected to examine 24 biomarkers, representing seven major physiological regulatory systems, to assess allostatic load. **RESULTS:** Linear mixed effect regression analyses indicated that the summary index measure of psychosocial stress was statistically significantly associated with allostatic load ($\beta=0.114$, 95% CI: [0.048, 0.180]). Four domain specific sub-scales were also statistically significantly associated with allostatic load: perceived inequality ($\beta=0.074$, 95% CI: [0.004, 0.143]), discrimination ($\beta=0.116$, 95% CI: [0.058, 0.174]), current financial stress ($\beta=0.098$, 95% CI: [0.042, 0.154]) and stressful life experiences ($\beta=0.080$, 95% CI: [0.013, 0.147]). Reported beta coefficients are standardized. **CONCLUSIONS:** These preliminary findings indicate that allostatic load is positively associated with reported stress and that multiple sources of stress (perceived inequality, discrimination, current financial stress and stressful life experiences) contribute to this association.

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C176

6:00 PM-7:00 PM

SCIENTIFIC YOGIC MEDITATION ANCIENT TECHNIQUE FOR DE-STRESSING STRESS.

Mool Raj Kotwal, MB,BS,MD,MNAMS, FIMSA, FACG, MRCP, FRCP.

Government of Sikkim, Gangtok, India

Scientific yogic Meditation Ancient Technique for De-stressing Stress.

Introduction: We live in an era of constant information and almost infinite possibilities. Multitasking leaves us stressed. Daily meditation physically transforms the cerebral cortex. The most unexpected and comforting recent research confirm that the human brain retains an astonishing degree of plasticity and capacity for learning throughout life. Our mental performance, despite a few glitches with short-term memory, does not peak until mid life, when the white matter in the loftiest parts of the brain is thickest. **AIM & Methods:** To evaluate efficacy of a self-learning de-stressing technique Swastya Sukha Satyam Shivam Sundram in randomly assigned 60 students a meditation group from 114 students practiced meditation for 12 weeks and rest formed control group. Five-step relaxation meditation technique is based on ancient wisdom of over 2500 years with modern scientific concept. Five-step relaxation meditation practiced for 20 minutes 5 days weekly was taught to meditation group, while control group did not practice. Results: A questionnaire analyzed confirmed validity, reliability and reproducibility. Three factors (Psyche, physical and life adjustment, Happiness, and moodiness) in the group that meditated two times a week for 12 weeks optimally showed statistically significant ($p < 0.0001$) results. **Conclusion.** Preliminary evaluation of an innovative Relaxation Meditation practiced twice a week for 12 weeks showed statistically significant results. The technique Could be used in many medical situations which generate undue psychological stress and anxiety, to enhance well being. The technique could promote health and prevent stress disorders. DVD movie presentation of the technique would be made. The technique is fully explained and is most simple exercise that can induce a nustrressed state.

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C177

6:00 PM-7:00 PM

THE EFFECTS OF JOURNALING & ASSISTED BIBLIOTHERAPY TECHNIQUES ON UNDERGRADUATES' PERCEIVED STRESS LEVELS

Paula Kalksma, M.S.¹, Elizabeth Orsega-Smith, PhD²¹University of Delaware, Pine Beach, NJ; ²University of Delaware, newark, DE

Introduction: Stress is a major issue negatively impacting college students' overall health. Students who cope with stressors effectively have been shown to have better health. This study examined how a 5-week intervention utilizing journaling and assisted bibliotherapy techniques (AB) would impact psychological variables in undergraduate college students. **Methods:** A convenience sample of 50 students (8 males, 42 females) participated. Experimental group (EX) participants (1 male, 24 females) met once a week for 50-minute sessions. Control group (C) participants (7 males, 18 females) received no intervention. Demographics, Perceived Stress Scale (PSS), Satisfaction With Life Scale (SWLS), Hamilton Anxiety Rating Scale (HAM-A), Subjective Happiness Scale (SHS) and Revised Life Orientation Test (LOT-R) were measured at baseline and post intervention. Repeated Measure ANOVAs were conducted for all psychosocial variables. **Results:** The PSS had no significant changes over time. The PSS Time X Group interaction was not statistically significant ($F(1, 49)=3.59, p=0.06$). There were non-statistically significant effects of time and Time X Group interaction on the HAM-A and SHS. Significant effect of time on the LOT-R was found, $F(1, 47)=4.92, pF(1, 48.00)=6.07, p$. Both groups increased their mean SWLS scores from baseline to post-test (EX: 23.56 ± 8.30 to 25.76 ± 6.94 ; C: 27.00 ± 5.55 to 27.48 ± 5.37). **Conclusion:** The results indicate that a 5-week journaling and AB intervention has the potential to improve some psychological variables. Future studies should build and improve upon this study's finding to determine if these methods are effective.

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C178

6:00 PM-7:00 PM

WHY DO PATIENTS WITH CHRONIC LYMPHOCYTIC LEUKEMIA EXPERIENCE LOWER STRESS WITH MORE RELAPSES? TEST OF A HABITUATION HYPOTHESIS.

Travis Westbrook, M.A.¹, Kami Maddocks, MD¹, Barbara L. Andersen, PhD²¹The Ohio State University, Columbus, OH; ²Ohio State University, Columbus, OH

Background: Chronic lymphocytic leukemia (CLL) is the most prevalent adult blood cancer. It is incurable, but treatments can achieve temporary remissions. The average CLL patient experiences multiple cycles of treatment, stable disease, and relapse. Contrary to expectations, our data suggest that number of previous treatments is inversely correlated with stress ($r=-.3, p < .05$). A potential mechanism of this relationship is that patients habituate, or experience decreased anxiety with increased exposure to treatment. Consistent with this theory, we hypothesized that anxiety symptoms would mediate the relationship between number of prior treatments and stress in a sample of patients with relapsed/refractory CLL. **Methods:** CLL patients with relapsed/refractory disease ($N=147$; 71% male; mean age=64, mean/range of number of prior treatments=3.5/1-16) completed questionnaires assessing cancer-specific stress (IES-R) and anxiety (POMS-Anxiety Subscale) during their screening appointment for enrollment in a CLL drug trial. Information on number of previous CLL treatments was collected via medical record review. Mediation analysis controlling for gender was conducted using a nonparametric bootstrapping approach (Hayes, 2013). **Results:** Anxiety significantly mediated the relationship between number of prior treatments and cancer-specific stress ($ab = -.24, 95\% CI = -.50$ to $-.01$). Specifically, number of prior treatments was associated with lower levels of anxiety, which in turn was associated with lower levels of cancer-specific stress. Anxiety accounted for 42% of the influence of number of prior treatments on cancer-specific stress. Independent of this mechanism, number of prior treatments was unrelated to cancer-specific stress ($c' = -.33, 95\% CI = -.80$ to $.13$). **Conclusions:** Consistent with a habituation hypothesis, higher numbers of previous CLL treatments were associated with lower levels of cancer specific stress via lower levels of anxiety. Longitudinal studies are needed to confirm directionality of these relationships.

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Saturday
April 02, 2016
8:45 AM-10:00 AM

Symposium 70

8:45 AM-10:00 AM

OBESITY IN THE 21ST-CENTURY: IT'S MORE THAN JUST BEHAVIOR

Martin Binks, PhD., FTOS¹, Patrick O'Neil, PhD², Emily Dhurandhar, Ph.D.¹¹Texas Tech University, Lubbock, TX; ²Medical University of South Carolina, Charleston, SC

Background: Public perceptions surrounding the causes, maintaining factors and interventions to improve obesity have long been focused almost exclusively on individual responsibility in managing food intake and physical activity. In recent years the focus has extended to controlling the broader food environment as a means to 'address the obesity epidemic.' This public dialogue is pervasive and creates a false, overly simplistic and at times myopic view of what is realistically required to address obesity at both the individual and societal levels. In addition, these beliefs often extend into the professional and scientific communities and can influence public health interventions, access to treatment and quality of patient care. At minimum, these perspectives fail to account for the many putative contributors to the disease of obesity which involve complex interactions among genetic predispositions, physiological mechanisms, neurohormonal and metabolic pathways, and broader environmental contributors to name a few. At its worst, this hyper-focus on personal responsibility for behavioral choices can lead to and/or perpetuate obesity bias and frequently devolve into a 'blame the victim' mentality. Our overarching theme will be centered on a framework for comprehensively and holistically treating the person with obesity within a transdisciplinary framework. This theme will be encompassed within the following presentations: **1) Obesity: A multifactorial disease. 2) Our own worst enemy: How behavioral approaches to obesity limit their effectiveness and relevance. 3) Understanding the influence of obesity bias in the development and management of obesity. Learning Objectives:** A) The participant will understand the complex contributors to the development, maintenance and treatment of the disease of obesity B) The participant will understand both the value and limitations of behavioral medicine-focused intervention in addressing obesity C) The participant will be able to articulate how obesity bias may influence access to care in obesity.

Symposium 70A

OBSESITY: A MULTIFACTORIAL DISEASE.

Dr. Martin Binks, PhD., FTOS

In this presentation we will provide an overview of a wide range of putative contributors to obesity. Furthermore we will address common myths, presumptions and types and sources of misinformation related to its development and treatment. We will consider the evidence (or absence thereof) for many commonly held notions related to causes, maintaining factors and treatment of obesity. Our goal is to allow the participant to explore the multifactorial nature of this complex disease and consider the importance of transdisciplinary, evidence based interventions from both the individual and public health perspectives.

Symposium 70B

OUR OWN WORST ENEMY: HOW BEHAVIORAL APPROACHES TO OBESITY LIMIT THEIR EFFECTIVENESS AND RELEVANCE

Dr. Patrick O'Neil, PhD

The era of the application of scientific research to the complex problem of obesity has included, from its start, an appreciation of the role of behavioral and psychological factors in its etiology and management. As befits a complex, multifactorial and multilevel topic, the growing scientific approach to obesity has included a multitude of disciplines from genetics through medicine to epidemiology and public health policy. Inevitably, each specialty brings to the effort its unique positive contributions and resources, but also, inevitably, its own theoretical and pragmatic limitations and at times somewhat narrow and or dogmatic perspective. In this talk, a clinical psychologist with more than 35 years' experience in obesity treatment and research will note a few of the ways in which behavioral research has similarly been limited by its own perspectives in addressing obesity, including the following: inordinate focus on theories and models; insufficient attention to issues of cost, dissemination, and patient acceptance when developing treatments; premature generalization to clinical populations from undergraduate and/or analog studies; application of approaches and perspectives from the mental health clinical setting without adequate rationale; confusion of acute and chronic phenomena; treating obesity as an eating disorder; failure to acknowledge the heterogeneity of obesity; lack of appreciation for the physiological consequences of obesity which endure after weight loss. We will discuss these limitations and present practical solutions to engender integrated scientific and clinical approaches to obesity.

Symposium 70C

UNDERSTANDING THE INFLUENCE OF OBESITY BIAS IN THE DEVELOPMENT AND MANAGEMENT OF OBESITY.

Dr. Emily Dhurandhar, Ph.D.

Although obesity has been recognized as a disease by several organizations (TOS, AACE, CDC, NIH) for some time and was recognized by the American Medical Association as a disease in 2013, significant barriers remain in providing access to reputable, evidence-based care to those with obesity. Among the several barriers that include lack of adequate provider training, relatively few providers trained in obesity management and cost considerations; bias towards people with obesity plays a significant role in access to care. In this presentation we will examine the roles that longstanding beliefs and attitudes including obesity bias play in the obesity epidemic. Our conversation will include an overview of both direct and subtle biases and how these may be perpetuated in public and professional discourse; how bias may influence perceptions and practices in the development of public health policy; and how these biases may affect both access to and quality of care.

Symposium 71

8:45 AM-10:00 AM

THE HEALTHY COMMUNITIES STUDY – EXAMINING HOW COMMUNITY POLICIES AND PROGRAMS ARE RELATED TO CHILDREN'S WEIGHT STATUS

S. Sonia Arteaga, PhD¹, Stephen Fawcett, Ph.D.², Warren J. Strauss, ScM³, Lorrene D. Ritchie, PhD⁴, Russell R. Pate, PhD⁵

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The Healthy Communities Study was an observational study that assessed associations between characteristics of community programs and policies and children's body mass index (BMI), diet and physical activity. Data were collected in a diverse sample of 130 communities and over 5000 children and their parents. Community policies and programs (CPP's) were assessed via key informant interviews. Multi-level modeling methods were used to examine associations between CPP's and both current BMI and age-related trajectories for BMI based on retrospective data abstracted from children's medical records. This program will provide an overview of key elements of the study protocol and will present preliminary study findings.

Symposium 71A

THE HEALTHY COMMUNITIES STUDY – EXAMINING HOW COMMUNITY POLICIES AND PROGRAMS ARE RELATED TO CHILDREN'S WEIGHT STATUS

Dr. Stephen Fawcett, Ph.D.

With the increase in community programs and policies targeting childhood obesity, studies are needed that systematically examine such natural experiments. This paper provides an overview of the study design and community measurement approach used in the Healthy Communities Study (HCS). Funded by the NHLBI and other institutes, this study involved a diverse sample of approximately 130 communities and 5,000 children. The HCS is an observational study to assess the relationships between characteristics of community programs and policies (and their intensity) and BMI, diet, and physical activity in children. The cross-sectional data include in-home assessment of children's height, weight, diet, and physical activity, and current information on community programs and policies. The retrospective data allow for an assessment of how community programs and policies have unfolded over the previous 10 years in each community. Those data will be compared with BMI trajectories over the same time period, which will be calculated by combining BMI measured at baseline with BMI calculated from height and weight data abstracted from participant medical records.

Symposium 71B

THE HEALTHY COMMUNITIES STUDY – EXAMINING HOW COMMUNITY POLICIES AND PROGRAMS ARE RELATED TO CHILDREN'S WEIGHT STATUS

Mr. Warren J. Strauss, ScM

The Healthy Communities Study was an observational study that assessed associations between characteristics of community programs and policies and children's body mass index (BMI), diet and physical activity. Data were collected in a diverse sample of 130 communities and over 5000 children and their parents. Community policies and programs (CPP's) were assessed via key informant interviews. Multi-level modeling methods were used to examine associations between CPP's and both current BMI and age-related trajectories for BMI based on retrospective data abstracted from children's medical records. This program will provide an overview of key elements of the study protocol and will present preliminary study findings.

This presentation will focus on results that assess the association between community-based program and policy intensity scores and measures of body mass index in children living in those communities. This will include both cross-sectional analysis results that focus on the current relationship, as well as longitudinal analysis results that focus on how the evolution of programs and policies in the communities are associated with BMI trajectories in resident children. We also hope to assess whether these relationships differ as a function of key demographic characteristics of communities or families, such as race, ethnicity, income, and urbanicity.

Symposium 71C

ASSOCIATIONS BETWEEN COMMUNITY PROGRAMS AND POLICIES TO PREVENT OBESITY AND CHILD DIETARY BEHAVIORS: WHAT CAN COMMUNITIES DO?

Ms. Lorrene D. Ritchie, PhD

While multi-faceted community interventions to improve food environments are recommended, their impact on children's diets has not been adequately studied. One objective of the Healthy Communities Study was to examine the associations between the intensity of community programs and policies aimed at improving child nutrition and measures of children's dietary behavior. Over 5000 children in grades K-8 were recruited from up to 4 schools in each of 130 U.S. communities, with community defined as a high school catchment area. Communities were selected on the basis of known engagement in obesity prevention efforts or as part of a stratified, random national sample. Characteristics of nutrition-related community programs and policies (CPPs) for the past 10 years were collected by key informant interview (10-14 per community) and document abstraction. Intensity scores for each CPP were computed (based on reach, duration and behavior change strategy), standardized, and then summed for each community by year. Dietary intake measures were computed from a dietary screener questionnaire for sugar-sweetened beverages, added sugar, energy dense foods of minimal nutritional value, fruits and vegetables, whole grains, dairy, and dietary fiber. Dietary behaviors included eating breakfast, eating while watching TV, eating from a fast food restaurant, eating dinner with family, and consuming lower fat milk. Hierarchical statistical models were created to assess associations between CPPs and dietary outcomes, adjusting for relevant child and community-level covariates. Preliminary results will be presented on the nutrition-related CPPs associated with dietary outcomes. Recommendations for strengthening community interventions to improve child nutrition will also be presented.

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Symposium 71D

PHYSICAL ACTIVITY OUTCOMES IN THE HEALTHY COMMUNITIES STUDY

Dr. Russell R. Pate, PhD

Community-based efforts to prevent childhood obesity have typically included policies and programs aimed at increasing children's physical activity (PA) levels. The efficacy of such strategies is supported by multiple types of scientific evidence (e.g., controlled trials, interventions in schools and other community settings). However, the impact of efforts to promote children's PA at the community level has not been studied extensively, particularly in a large, diverse set of communities. The purpose of this presentation is to describe the association between community-level investments in promotion of physical activity and children's physical activity levels in a diverse sample of U.S. communities. The Healthy Communities Study used a cross-sectional, multi-level design. A total of 130 communities (defined as a high-school catchment area) and approximately 5000 children and their parents/caregivers participated in the study. Key informant interviews and document abstraction were used to assess community programs and policies (CPPs) related to increased PA. Each CPP was intensity scored based on strategy, duration, and reach. Children self-reported participation in 14 forms of PA (e.g., PE, after school programs, non-school sports, active classes, active transport) during the past week. Data were reduced to moderate-to-vigorous physical activity (MVPA) and Total PA (TPA). Findings for multi-level models examining the association between the CPP physical activity intensity score and children's MVPA and TPA will be presented.

Symposium 72

8:45 AM-10:00 AM

IMPLEMENTING A COMPLEX BEHAVIORAL INTERVENTION RCT IN UNDERSERVED COMMUNITY SETTINGS

Elizabeth Pyatak, PhD, OTR/L, CDE¹, Jeanine Blanchard, PhD, OTR/L², Kristine Carandang, MS, OTR/L¹, Jesus Diaz, OTD¹

¹University of Southern California, Los Angeles, CA; ²University of Southern California, Covina, CA

The methodologies of randomized controlled trials (RCTs) and community-based research are somewhat at odds, with RCT research emphasizing strict adherence to prespecified protocols and procedures, while community-based research is often grounded in a more flexible, bottom-up approach. Nevertheless, because RCTs are widely acknowledged as the gold standard in efficacy research, they are often employed to evaluate complex community-based interventions.

In this symposium, we will present our approach to implementing a complex community-based diabetes management intervention, among an underserved ethnic minority population of young adults, within the context of a randomized controlled trial. Throughout the symposium, we will describe real-life challenges in study implementation, and highlight strategies we have found successful for negotiating the tensions that can arise between an RCT's strict methodological rigor and the real-life needs and concerns of study participants.

Following an introduction and overview of the study methodology by the symposium chair, three major topics will be addressed. First, we will discuss general study implementation issues, including trial management, participant tracking, and hiring and personnel decisions. This presentation will particularly emphasize the technological tools used to manage workflow and strategies employed to effectively manage a clinical trial with significant budgetary constraints. Second, we will discuss recruitment challenges we have encountered, practical solutions we devised to resolve these challenges, and their impact on the overall study administration. Finally, we will discuss strategies for implementing the intervention among an underserved population of young adults who have significant limitations to their autonomy in making healthcare decisions and implementing health behaviors. The discussant will address the specific methodological issues highlighted by each presenter, and facilitate a dialogue related to best practices in community-based intervention research amongst the presenters and attendees.

Symposium 72A

IMPLEMENTING A DIABETES MANAGEMENT RANDOMIZED CONTROLLED TRIAL IN UNDERSERVED COMMUNITY SETTINGS

Jeanine Blanchard, PhD, OTR/L

Community-based randomized trial implementation is replete with challenges in all project phases. It is important to adhere to the structured guidelines of clinical trials, while remaining flexible in the tools, personnel, and technology used to manage research projects.

In this presentation, we will discuss the challenges encountered, and our strategies used to address these challenges, in implementing a randomized controlled trial with a flexible workforce composed primarily of part-time staff and student workers who must juggle multiple roles and responsibilities.

First, in conducting the Resilient, Empowered, Active Living (REAL) Diabetes Study, we are utilizing several technological tools to manage the workflow and maintain communication about important study tasks and priorities. For example, we have relied on web-based systems (e.g., REDCapTM, a secure software package used to design study-specific clinical research databases) for data management and tracking. These systems allow for remote access and multiple user profiles to maintain appropriate blinding and segregation of participant identifiers from study data.

Second, given that our entire team works part-time on the study, we have developed systems and strategies to delegate study responsibilities amongst our team, and cross-trained many of our staff to fulfill multiple roles and responsibilities where possible without violating study protocols.

Finally, we have maintained a flexible approach to implementing our study protocol, making adjustments as necessary. For example, we introduced social media advertising as a recruitment strategy to augment clinic-based recruitment. This protocol change required restructuring our enrollment and data collection workflow, and adjusting staff roles and responsibilities. In addition, it led to changes in our participants' demographics and expectations regarding the research process.

In conclusion, this presentation will engage attendees in thoughtful consideration of strategies to implement clinical trials, using examples from our research.

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Symposium 72B

A TAILORED APPROACH TO RECRUITMENT OF UNDERSERVED YOUNG ADULTS WITH TYPE 1 AND TYPE 2 DIABETES

Kristine Carandang, MS, OTR/L

Recruitment is one of the major challenges of any clinical study, particularly so among populations who are known to be difficult to reach. The Resilient, Empowered, Active Living with Diabetes (REAL Diabetes) study is targeting young adults with diabetes who are underserved and primarily from minority racial/ethnic backgrounds. Both young adults and underserved populations can be challenging to recruit for clinical research for several reasons, including high geographic mobility, frequently changing contact information, and distrust of researchers. This presentation describes the recruitment challenges we have encountered and strategies we have found effective in recruiting a difficult-to-reach population.

The REAL Diabetes research team has adapted various recruitment strategies in two distinct settings. Our initial recruitment plans centered on in-person recruitment at hospital-based outpatient clinics. Clinics facilitated recruitment at a variety of levels, ranging from posting recruitment flyers to allowing study staff to approach patients in exam rooms. These strategies were initially efficacious, more so at sites where we had greater access to medical records (to evaluate eligibility) and more opportunities for patient contact. However, structural changes to hospital and insurance policies led to a sharp decrease in recruitment efficiency midway through the study. In response to this challenge, we enacted several additional strategies to broaden our recruitment pool. The most successful of these were social media advertising and mass mailings to clinic patients, both of which required a shift in our enrollment processes to adapt to the changing population who responded to these recruitment solicitations. These strategies enabled us to reach more patients with type 2 diabetes and patients older in age, as well as those not currently receiving diabetes-specific medical care.

This presentation will provide an overview of lessons learned regarding the optimization of recruitment among a hard-to-reach population. By adapting and maintaining flexibility throughout our recruitment process, we have been able to recruit a study population that maximizes the study's generalizability by reflecting the diversity of young people living with diabetes.

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Symposium 72C

IMPLEMENTING A COMPLEX COMMUNITY-BASED DIABETES INTERVENTION FOR YOUNG ADULTS: CHALLENGES AND STRATEGIES

Jesus Diaz, OTD

The Resilient, Empowered, Active Living with Diabetes (REAL Diabetes) study is testing the efficacy of a community-based lifestyle program designed for low-SES young adults. Community-based practice among this population has opened up therapeutic encounters to a number of uncontrolled factors and challenges. This presentation will discuss the challenges therapists have faced in implementing the intervention, and their strategies employed to address them.

Young adults face unique challenges to managing their chronic disease and navigating healthcare systems. Many of our 18-30 year old study participants have little or no experience independently navigating healthcare system bureaucracies. They may also lack the skills, knowledge, or insight needed to successfully and independently manage their diabetes and self-advocate for appropriate care. In addition, as these young adults transition into adult roles, they face increasing responsibilities at home and at work. In many cases, this increased responsibility occurs without a parallel increase in autonomy. Decisions about work schedules, eating habits, and physical activity are often constrained by family, school, and work obligations. For example, participants with low-status employment frequently have little control over their work schedules, no opportunity for paid sick leave, and little recourse against workplace discrimination related to diabetes.

These aspects of young adulthood among our study population lead to three challenges: obstacles accessing adequate healthcare, difficulty applying therapeutic strategies due to everyday life constraints or unexpected events, and difficulty maintaining consistent participation in the intervention. A final challenge encountered by therapists is that the scope of the intervention is sometimes unclear to participants, leading to situations where participants request assistance for non-diabetes related concerns.

This presentation will outline the intervention and discuss the ways in which our research team has collaborated to address these ongoing challenges through weekly meetings, fidelity visits, establishing protocols and interdisciplinary consultations.

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Symposium 73

8:45 AM-10:00 AM

MATERNAL AND PEDIATRIC OBESITY MANAGEMENT: TRANSLATION FROM RESEARCH TO CLINICAL PRACTICE TO COMMUNITY DISSEMINATION

Danielle Symons. Downs, PhD¹, Lisa Bailey-Davis, PhD², Jennifer Savage, PhD¹, Jenn Leiferman, PhD³

¹The Pennsylvania State University, University Park, PA; ²Geisinger Health Systems, Danville, PA; ³Colorado School of Public Health, Aurora, CO

Translating behavioral intervention research on maternal and pediatric obesity management to clinical practice and community dissemination is a highly relevant yet difficult undertaking. In order for this multidisciplinary collaboration between researchers, healthcare systems, and community organizations to be successful, constant communication and clear expectations of the research and practice goals are essential. The goal of this symposium is to acquaint attendees with our lessons learned so far from an emerging strategic collaboration between university researchers, Geisinger Health System, and community organizations to integrate evidence-based research on managing weight in the preconceptional, prenatal, postnatal, and early childhood periods to clinical practice recommendations and community dissemination. The first talk will describe methods and preliminary findings from interventions to manage weight in the preconception and prenatal periods as well as discuss key lessons learned from clinic- and community-based recruitment and collaboration on patient safety issues. The second talk will present how clinical practice recommendations and evidence-based interventions can be implemented within a large health system using novel strategies such as health information technologies in an automated electronic health record environment with lessons learned in the early childhood period. The third talk will describe key lessons learned on how to integrate evidence based research with community organizations and clinical partners that coordinate care to increase the potential for improved and sustainable health outcomes. The symposium concludes with a discussant with expertise in interdisciplinary research approaches.

Symposium 73A

INTERVENTIONS TO MANAGE WEIGHT DURING THE TRANSITION TO MOTHERHOOD: TRANSLATING TO CLINICAL CARE

Dr. Danielle Symons. Downs, PhD

Most U.S. women enter pregnancy already overweight or obese; increasing risks for maternal and infant morbidity. At the same time, excessive gestational weight gain (GWG) is a growing concern and particularly problematic among overweight and obese women. Effective strategies are needed to collectively reduce obesity prior to pregnancy and manage GWG in pregnancy to reduce poor pregnancy outcomes. Prenatal interventions have historically been utilized because they capitalize on women's motivation to make immediate health behavior changes in the best interest of their growing baby. More recently, there is increasing interest in preconceptional interventions because they can promote behavior change before conception and allow for more effective treatments, particularly for weight management. Translating key behavioral tools and outcomes from these interventions into prenatal care has great potential for impacting weight management in this population. The goals of this symposium are to describe the methods/findings from: (a) a community-based, preconceptional health behavior change intervention aiming to improve health and reduce weight among women in rural communities across Pennsylvania, and (b) an individually-tailored, "just in time" prenatal intervention to manage weight in overweight and obese pregnant women. We will also discuss key lessons learned from clinic/community based recruitment, collaboration on patient safety issues, and recommendations for translating research to prenatal care. Findings from the two interventions will be described, including follow-up data from a cohort of women in the preconceptional intervention that went on to become pregnant during the 24-month follow-up period. Some of the key lessons learned to be discussed will include building effective communications with clinics and providers for recruitment, retention, monitoring of patient safety issues, and translating findings to clinical care.

Symposium 73B

OPTIMIZING THE IMPLEMENTATION OF PEDIATRIC OBESITY PREVENTION GUIDELINES IN A LARGE, INTEGRATED HEALTH SYSTEM

Dr. Lisa Bailey-Davis, PhD

The translation of science into clinical practice can be enhanced with expert-endorsed clinical guidelines but even then effective and reliable implementation can take a decade or more. In an effort to enhance clinical impact, an expert committee published guidelines for the prevention, assessment and treatment of pediatric obesity in 2007. Despite recent declines in the national prevalence of obesity among preschool-aged children, Pennsylvania was one of three states that observed significant increases in the prevalence of early childhood obesity and took this as a call to action to address disparities. Geisinger, a large, integrated health system serving Pennsylvania, responded to this call with strategies to optimize the clinical implementation of expert guidelines to prevent childhood obesity. In addition to the practical need of evaluating these strategies, two additional gaps were identified- the expert committee guidelines did not address children under 2 years and a 2013 meta-analysis found insufficient evidence regarding effective pediatric obesity prevention in health care settings. The goals of this symposium are to: (a) describe health information technology strategies used in an automated electronic health record environment that enable patient-reported behavior and attitude assessment for parents of children birth-9 year; (b) discuss the utility of incorporating patient-reported data for clinical decision making and preventive counseling on weight outcomes; and (c) describe implementation lessons across several domains. Findings from two randomized cluster controlled trials will be described, including one-year weight outcome data from children, as well as provider and parent measures. Key lessons learned will include the need to attend to primary care provider incentives, account for local variation in workflow, adequately equip clinics with technology tools, and simplify user access to assessment tools and educational resources.

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Symposium 73C

COORDINATING CARE AMONG STAKEHOLDERS TO RAISE HEALTHY FAMILIES

Dr. Jennifer Savage, PhD

Economically disadvantaged and minority children and their parents have numerous points of contact with the healthcare system including primary care providers (PCPs) and the Special Supplemental Nutrition Program for Women, Infants and Children (WIC). Three issues call for the need to coordinate care and messages among this high risk population: 1) obesity rates are higher for children from lower-income homes; 2) care in both settings is oriented toward primary prevention with similar institutional expectations and situational challenges; and 3) parents view both community nutritionists and PCPs as credible and trustworthy sources of parenting and feeding information during the first few years of their child's life, but the care is uncoordinated, conflicting, and inefficient. Although policy makers agree that care needs to be coordinated, we lack understanding of how to coordinate services to impact childhood obesity prevention. The overall goal of this symposium is to describe key lessons learned on how to integrate evidence based research with community organizations and clinical partners that coordinates care to increase potential for improved and sustainable health outcomes. Three main findings will be discussed: (1) community and clinical care stakeholders' beliefs regarding roles and responsibilities for care domains and their attitudes about electronic data coordination solutions across clinical and community settings, (2) a solution based approach to electronically coordinate care between health care and WIC settings for early obesity prevention using Health Information Technology (HIT) strategies, and (3) observational findings that emphasize the importance of coordinating mental health screening among community and clinical providers. This symposium will demonstrate that family and patient-centered care, consistent with the chronic care model, may advance the fields of obesity prevention and behavioral health.

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Symposium 74

8:45 AM-10:00 AM

THE RELAXATION RESPONSE RESILIENCY PROGRAM (3RP): A NOVEL MULTIMODAL COPING SKILLS PROGRAM FOR PATIENTS AND PROVIDERS

Ana-Maria Vranceanu, Ph.D.¹, Adam Gonzalez, PhD², Giselle K. Perez, PH.D.³, Elyse R. Park, PhD/ MPH³, Suzanne Lechner, Ph.D.⁴

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The annual American Psychological Associations Stress in America Survey recently revealed that the levels of stress reported, in conjunction with alarming physical health consequences of stress, suggests that the U.S. is on the verge of a stress-induced public health crisis. Indeed, stress is pervasive, and resiliency is a multidimensional construct that provides a framework for understanding one's ability to cope with stress as a dynamic process. This symposium discusses emerging empirical evidence on the efficacy of the Relaxation Response Resiliency Program (3RP; Park et al, ref) in populations with significant past, current and anticipated stressors, such as patients with neurofibromatosis (NF) and respiratory symptoms comorbid with PTSD, providers of palliative care and medical interpreters.

The 3RP is a novel, multimodal, innovative treatment aimed at decreasing physiological, emotional, cognitive and behavioral effects of chronic stress, with the ultimate goal of improving health and promoting resiliency through adaptive coping. The 3 major treatment components of the 3RP are: (1) elicitation of the relaxation response through a variety of techniques; (2) increasing awareness of stress and teaching adaptive strategies to respond to stress and/or symptoms; (3) increasing connectedness to self and others through a variety of positive psychology techniques. Presenters will address methodological issues in mind-body intervention research, including development of data collection systems and integrating interventions into a healthcare system. Rationales for the choice of delivery modality, assessment measures, and control group selection will also be discussed. All presenters will present data on the feasibility, acceptability and preliminary efficacy of the 3RP. Each presenter will discuss population specific challenges in the delivery of the 3RP, and population specific adaptations.

Symposium 74A

THE RELAXATION RESPONSE RESILIENCY PROGRAM FOR PATIENTS WITH NEUROFIBROMATOSIS; A SINGLE BLIND NATIONAL RCT VIA SKYPE

Dr. Ana-Maria Vranceanu, Ph.D.

NF1, NF2 and schwannomatosis are incurable tumor suppressor syndromes, associated with significant psychological distress and impaired quality of life (QoL), currently treated through a biomedical model. We report on the first single blind, randomized controlled trial (RCT) aimed to assess the feasibility, acceptability efficacy and durability of a mind body intervention adapted for patients with NF (3RP-NF), versus an attention placebo control, the Healthy Living Program (HLP).

The first 65/252 NF patients who responded to an IRB-approved flyer about a stress reduction study emailed through an NF registry were invited to participate. Primary outcomes were physical and psychological QoL (WHOQOLBref). Secondary outcomes included measures of psychoemotional functioning: depression (PhQ-9), anxiety (GAD-7), coping (MOCs), somatization (PHQ-13), social and environmental QoL (WHOQOLBref), pain interference (BPI) and pain intensity (NRS). Participants were randomly assigned to the 3RP or HLP interventions, which both met weekly via Skype for 1.5 hours for 8 consecutive weeks.

The intervention was feasible and well accepted; 62 out of 63 participants completed the program, and 52 completed the 6 months follow up. Mixed methods analyses showed that patients in the 3RP-NF improved significantly more than those in HLP from baseline to posttest by 7.7 units for physical QoL ($p = .04$) and 5.6 units for psychological QoL ($p = .05$). Improvements were both statistically and clinically significant. Improvements were stable through the 6 months follow up ($p > .1$). Results were similar for the secondary outcomes, except depression and somatization, where patients in the 3RP-NF continued to improve after the intervention ended.

The 3RP-NF delivered via Skype was found to be feasible, acceptable, efficacious and durable for patients with NF. The Skype medium of delivery is cost effective and bypasses many barriers to care, making it a great medium for delivering mind body treatments to patients with rare disorders.

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Symposium 74B

A PILOT TEST OF THE RELAXATION RESPONSE RESILIENCY PROGRAM (3RP) WITH WORLD TRADE CENTER RESPONDERS

Adam Gonzalez, PhD

More than 30% of responders to the World Trade Center (WTC) disaster on 9/11 continue to experience significant psychiatric and/or medical problems in spite of the extensive clinical services provided by the WTC Health Program. Two of the most common health sequelae of the disaster, post-traumatic stress disorder (PTSD) symptoms and respiratory illness are highly comorbid and persistent. Mind-body treatments have demonstrated promise for reducing both PTSD and respiratory symptoms; however, no study has evaluated a comprehensive mind-body treatment among patients with these comorbidities.

This presentation addresses the rationale for utilizing the 3RP to target comorbid PTSD and respiratory symptoms in WTC responders, the development of a structured comparison treatment – the Health Enhancement Program (HEP), and relevant bio-psycho-social assessment tools (i.e., immune markers, behavioral tests, and electronic monitoring) being used in our randomized clinical trial. A pilot trial was conducted to evaluate the acceptability and feasibility of the 3RP and HEP interventions with male WTC responders ($N=12$) and post-treatment outcomes. Qualitative and empirical data suggest that the 3RP and HEP treatments were well received and were effective in reducing 9/11-related PTSD symptom severity ($d = 0.97$ and $d = .77$; respectively), and improving physical activity ($d = 1.15$ and $d = .76$; respectively), nutrition ($d = 1.76$ and $d = 1.21$; respectively), and stress management ($d = 1.32$ and $d = 1.28$; respectively). Based on the success of the pilot study, a full scale RCT is currently being undertaken with a total of 154 WTC responders.

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Symposium 74C

DEVELOPING A RESILIENCY PROGRAM FOR PALLIATIVE CARE CLINICIANS

Dr. Giselle K. Perez, PH.D.

Background. Palliative care clinicians (PCCs) are at high risk for chronic stress and burnout. Although mind-body programs may help mitigate the negative effects of stress, no studies have explored the utility of these programs in enhancing PCC resiliency. This mixed methods study examined the feasibility and potential efficacy of the Relaxation Response Resiliency Program (3RP), in promoting PCC resiliency. **Methods.** Phase 1: We conducted interviews with 15 PCCs (M age=44; 80% female, 86.7% White) to identify challenges and training needs. Phase 2: We adapted and tested a 5-session resiliency program (3RP-PCC) with the same 15 PCCs. **Results.** Phase 1: PCCs identified three main stressors: 1) systemic stressors related to managing large, emotionally demanding caseloads; 2) personal stressors related to delineating emotional and professional boundaries, and 3) patient factors, such as addressing patients' mutable needs. For training needs, PCCs desired relaxation training, stress education, and cognitive strategies to reduce negative self-talk. Notably, most clinicians wanted brief strategies they could easily practice in the workplace. Phase 2: The 3RP-PCC consisted of one 4-hour session and 4 2-hour biweekly sessions held over 2 months. All PCCs attended at least 4/5 sessions. Post intervention, participants showed reductions in perceived stress ($z=2.17$, $p=.03$; Cohen's $d=.65$) and improvements in perspective taking ($z=-1.66$, $p=.10$; Cohen's $d=.67$). Small effect sizes were found for improvements in optimism ($z=-1.44$, $p=.15$; Cohen's $d=.36$), life satisfaction ($z=-1.18$, $p=.24$; Cohen's $d=.29$), and self-efficacy ($z=-.88$, $p=.38$; Cohen's $d=.30$). **Conclusion.** The 3RP-PCC led to improvements in areas of need identified by PCCs. It also provided PCCs with tools they can integrate during work hours. Findings suggest that a mind-body resiliency program may be an efficacious approach to stress management that can reduce the risk of burnout and promote PCC resiliency.

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Symposium 74D

DEVELOPING A RESILIENCY INTERVENTION TARGETED FOR INTERPRETERS IN CANCER SETTINGS

Dr. Elyse R. Park, PhD/ MPH

Objective: Medical interpreters, the link to quality care for limited English proficiency cancer patients, face many psychosocial stressors for which they do not receive training or support. We assessed sources of interpreter stress and developed a targeted resiliency program to help interpreters cope with stressors, particularly in cancer encounters. **Methods.** From 2013-2014, we developed and pilot tested a program with interpreters from 3 Boston hospitals. We conducted 5 focus groups ($n=31$) to identify 1) barriers to participation and 2) psychosocial needs. We developed and tested a 4-hour group program with 29 interpreters (69% female, 54% Hispanic, 85% born outside U.S.). **Results.** Barriers to participating included: 1) logistics (e.g., scheduling), 2) concerns about group size and confidentiality, and 3) disinterest in a support-group. We created a 4-hour single session intervention and emphasized that the group would be small in numbers and that information shared would be confidential and skills-based. Participants shared salient stressors: patient-based (witnessing suffering, setting boundaries), interactions with medical team (serving as an intermediary between oncologists and patients), role challenges (family members' resistance), and systems based (unpredictable scheduling). Participants endorsed low abilities to cope with stress (Measure of Current Status; MOCS-A). At 4-week follow-up participants reported feeling more assertive about their needs ($p=.10$; Cohen's $d=.30$), more able to relax at will ($p=.10$; Cohen's $d=.35$), and greater job satisfaction ($p=.02$; Cohen's $d=.41$). **Conclusions.** We developed a 4-hour program that targeted salient stressors and engaged interpreters. Interpreters experience chronic stressors yet have low coping skills, which improved following the program.

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Symposium 75

8:45 AM-10:00 AM

PATIENT, PROVIDER, AND SYSTEM INTERVENTIONS TO PROMOTE EQUITY AMONG VULNERABLE VETERAN POPULATIONS

Thomas Houston, MD MPH¹, Dinesh Mittal, MD², Leslie R. M. Hausmann, PhD³, Uchenna Uchendu, MD⁴

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The Veterans Health Administration (VHA) is committed to providing equitable, high-quality care to all Veterans. Sponsoring research and quality improvement projects focused on improving healthcare for potentially vulnerable Veteran populations receiving services in VHA facilities demonstrate this commitment. In this symposium we will share findings from research and quality improvement projects that aim to improve health and healthcare among vulnerable Veteran populations using interventions that target patients, providers, and/or the system. First, we will share findings from a research study that uses storytelling to reduce blood pressure among Black Veterans with hypertension. Second, we will present findings from a study testing the impact of an intervention to reduce mental illness stigma among primary care providers by challenging stereotypes about persons with mental illness. Third, we will discuss a large, multi-level quality improvement project focused on reducing racial disparities in uncontrolled hypertension observed within a regional network consisting of 10 VHA facilities. The Executive Director of the VHA Office of Health Equity will discuss these multi-level efforts to serve the diverse Veteran population and put them in context with other initiatives to promote equity in VHA facilities.

Symposium 75A

IMPACT OF STORIES-ENHANCED SELF-MANAGEMENT INTERVENTION: RCT IN AFRICAN-AMERICANS WITH HYPERTENSION.

Thomas Houston, MD MPH

Background: Adding patient success stories to self-management support interventions has the potential to enhance personal relevance; increasing engagement, and thus enhancing downstream effects on self-management behaviors and outcomes. **Methods:** We conducted a multi-site randomized trial of a Stories-enhanced self-management motivational/educational DVD for African Americans with hypertension, compared with control. The control DVD was designed to motivate medication, diet, and physical activity behaviors, encourage “talking to your doctor”, and provide education about the long term benefits of blood pressure control. In addition to this content, the intervention included videos of African-American Veterans telling their stories of controlling HTN. At baseline and six-month follow-up, physiologic outcomes (blood pressure readings) were obtained by research staff using a standardized 3-measure protocol. Surveys collected baseline data, self-reported engagement with the DVD immediately after viewing, and six-month change in hypertension management behaviors. **Results:** African American Veterans (N=618) were randomized to Stories intervention or control, with 39% over 65, 8.3% female, 89% did not graduate college, and 53.6% with \leq \$20,000 yearly income (characteristics are balanced across the two groups). After watching the DVD, Intervention patients reported the content more emotionally engaging (mean=4.3 (SD 2.3) on 7-point Likert scale) compared to control (mean= 3.2 (SD 2.2), $p=0.001$). At follow-up, 86.9% intervention strongly agreed/agreed that they were confident they could maintain lifestyle change, compared with 77% controls ($p=0.045$). Looking at physiologic outcomes, at baseline, mean systolic BP was 138.4 (SD 18) with no significant difference by group. At follow-up, there was a 3.3mmHg difference in blood pressure, favoring the intervention ($p=0.04$). **Conclusion:** In this population of at-risk African American Veterans, adding personal stories of Veterans resulted in increased emotional engagement and downstream positive effects on self-reported behavior and objectively measured BP.

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Symposium 75B

IMPLEMENTATION OF STIGMA REDUCTION INTERVENTION FOR PRIMARY CARE PROVIDERS

Dr. Dinesh Mittal, MD

Relative to those without mental illness, patients with serious mental illness (SMI) are less likely to receive preventive services (vaccinations and screening mammography) and specialty physical healthcare services. While the reasons for this pattern are complex, providers' negative attitudes and behaviors and lower clinical expectations have been implicated. Research shows that interventions which utilize an experiential approach to challenge stereotypes by exposing people to high functioning persons with mental illness—called “contact interventions”—yield significantly greater reduction in stigmatizing attitudes than other approaches such as education alone. In consultation with an expert in stigma reduction and utilizing qualitative data from VA providers and feedback from a National advisory board of providers and consumers who have SMI, we have tailored an evidence-based contact intervention, Serving All Veterans Equally (SAVE) for primary care (PC) providers. I will share preliminary findings from a Type 2 Hybrid effectiveness-implementation study that tests the feasibility and impact of using an external facilitation strategy (EFS) to support implementation of the evidence-based contact intervention, SAVE, to reduce stigma of mental illness among VA PC providers. The study was conducted at 2 sites. External facilitation strategy was effective in implementing the contact intervention and the active control intervention, which involved PowerPoint based education about myths and facts regarding serious mental illness. Among 62 potential providers at 1 site, 18 participated; at the second site 21 from the pool of 42 PC providers participated. Adoption from baseline to 3 month time point (end of the intervention) was 100%; however, there was significant drop off in participation at the 1 month booster session during the implementation of the intervention. Contrary to expectations, providers in the education intervention showed a decrease in stigmatizing attitudes on the measures of provider stigma compared to providers in the contact intervention group. I will discuss possible reasons and implications for this unexpected finding.

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Symposium 75C

EVALUATION OF A NETWORK-WIDE EFFORT TO REDUCE RACIAL DISPARITIES IN HYPERTENSION

Dr. Leslie R. M. Hausmann, PhD

I will share findings from a mixed-method evaluation of a quality improvement effort to reduce racial disparities in blood pressure (BP) control among Veterans with hypertension (HTN) in 10 Veterans Affairs facilities in Veterans Integrated Service Network 4 (VISN4) in 2014. We collected qualitative data from project meetings and interviewed facility project leaders to assess barriers to reducing the number of Black Veterans with Stage 2 HTN (BP \geq 160/100) and to describe the nature and intensity of strategies used by facilities to overcome barriers. We also performed quantitative analyses of data from electronic records to assess changes in BP control for Black and White Veterans, and to examine how strategies undertaken by facilities were related to changes over time. Challenges that could impact project success (e.g., turnover, concerns about the performance metric) were identified and addressed through a formative evaluation 4 months into the project. Qualitative data also revealed common barriers related to efforts to improve BP management or reduce BP disparities at facilities. Barriers were identified at the level of patients (e.g., appointment and medication adherence), providers (e.g., getting providers to take and log BP measurements), and the system (e.g., time/resources, care coordination). Although facilities used different strategies based on local needs and staff availability, 7 broad categories of strategies emerged: provider education, using lists of patients with Stage 2 HTN, patient outreach, patient education, increasing uptake of existing services, establishing new types of HTN appointments, and using prompts in the electronic medical record. Quantitative analyses revealed a small VISN-wide reduction in the proportion of Black Veterans with Stage 2 HTN over the year, as well as a reduction in the Black-White disparity. The reduction in the Black-White disparity was significantly larger in facilities that used strategies from more categories. The project yielded several insights to guide future quality improvement efforts focused on disparities in health or health care.

Symposium 76

8:45 AM-10:00 AM

WORKING WITH TRIPLE VULNERABILITIES: ETHNIC MINORITY YOUTH WITH CHRONIC HEALTH CONDITIONS

Nataliya Zelikovskiy, Ph.D.¹, Daniel Mello, B.A.², Dahra Jackson Williams, PhD³, Sharon Horner, PhD⁴, Kira Branch, Psy.D.⁵

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Chronic health conditions brings many challenges such as managing a strict medical regimen, potential uncertainty about illness and physical symptoms, disruption to typical daily routines, and reduced quality of life and psychosocial functioning. Children are particularly vulnerable to negative developmental sequelae in response to medical stress, with adolescents being the highest risk group. Minority youth have unique challenges to face above and beyond medical stressors, specifically limited educational and financial resources in the context of lower socioeconomic status. Thus, working with ethnic minority youth with a chronic illness necessitates attention to triple vulnerabilities and managing the impact of cumulative and chronic stressors in the medical, developmental, psychosocial, and demographic domains. This symposium will present three papers discussing the intersection of these factors across three pediatric chronic illness groups: asthma, diabetes, and sickle cell disease. The first, a cross-sectional quantitative study examines quality of life and contributing factors among African-American, Hispanic, and Caucasian children. The second, a mixed-methods design study examines the experience of stress and coping among Latino and Caucasian adolescents with Type I diabetes. The third, a quantitative study examines medical and mental health factors, and self-efficacy as related to intention to seek psychological services among youth with sickle cell disease. A II three studies included child and parent report measures, considering their relative contributions to the outcomes. The symposium will highlight themes that cut across these chronic illness groups. Clinical implications for identification of risk factors and potential interventions for minority youth with chronic illness will be discussed.

Symposium 76A

THE STRESS & COPING CONTEXT OF TYPE 1 DIABETES MANAGEMENT AMONG LATINO AND CAUCASIAN ADOLESCENTS AND THEIR MOTHERS

Daniel Mello, B.A.

Adolescence is a difficult time for diabetes management, particularly for Latino youth who often have poorer management than Caucasians (Gallegos-Macias et al., 2003). This may reflect ethnic differences in diabetes-related stress and coping, or in the manner in which adolescents and parents have shared understandings of the stressful challenges of diabetes management. A mixed methods approach explored ethnic differences in the experience and appraisal of diabetes-related stress and coping, as well as in the extent to which adolescents and mothers were congruent in stress perceptions. Caucasian and Latino adolescents with type 1 diabetes > 1 yr ($N = 118$, 10–15 yr olds; 54% female; 47% Latino) and their mothers completed structured interviews describing recent diabetes-related stress and coping experiences, as well as a survey measuring adherence; glycemic control was indexed from medical records. Content coding revealed few ethnic differences among adolescents, but Latina mothers were less likely to describe stressors dealing with low blood glucose, diabetes management behaviors, and management away from home (p values < .05), and were nearly three times more likely to report their adolescent did not experience a diabetes stressor than Caucasians (χ^2 (1, $N = 116$) = 4.205, $p < .05$). Caucasian and Latino youth equally described mostly active problem-focused coping strategies to deal with diabetes stress, but Latina mothers appraised their adolescent as less competent in coping (β (SE) = -.213 (.095), $p < .05$) and had less confidence in their adolescent's ability to cope in the future (β (SE) = -.259 (.083), $p < .05$). Latino adolescent-mother dyads also had lower stressor congruence than Caucasian dyads (β (SE) = -.064 (.021), $p < .05$). Such ethnic differences should be examined further as perceptions of lower coping competence (β (SE) = -.300 (.138), $p < .05$) and lower stressor congruence (β (SE) = -.127 (.0618), $p < .05$) were also associated with poorer glycemic control. Differences among Caucasian and Latino mothers, and associations with outcomes, will be discussed.

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Symposium 76B

TRIPLE VULNERABILITY: THE BURDEN OF ASTHMA ON ETHNIC MINORITY CHILDREN

Professor Sharon Horner, PhD

Purpose: To examine differences in quality of life (QOL) in a tri-ethnic sample (Hispanic, African American, white) of school-aged children with asthma and their parents. Background: Asthma disproportionately affects the poor and members of racial and ethnic minority groups. The burden of managing asthma in the context of reduced resources (SES, lack of medications) can adversely affect quality of life. Methods: A cross-sectional study of children in grades 2–5 who have asthma was conducted. Children's QOL was measured with Juniper's Pediatric Asthma QOL scale, with three subscales measuring symptom burden (SBQOL), emotional functioning (EFQOL), and activity limitations (ALQOL). Parents' QOL was measured with the Pediatric Caregiver Asthma QOL scale with two subscales (EFQOL & ALQOL). Analyses compared resource deficits and QOL between racial/ethnic groups. Findings: The sample is composed of 285 children (180 boys, 105 girls), mean age 8.82 years; with 168 Hispanic, 58 African American, and 55 white children. QOL was significantly worse for African American and Hispanic children and their parents in comparison to whites: Children's ALQOL ($F=5.80$, $p=.003$), EFQOL ($F=3.46$, $p=.03$) and SBQOL ($F=8.21$, $pF=3.30$, $p=.04$) and ALQOL ($F=3.40$, $p=.04$). Resource deficits may contribute to worse QOL, as SES was significantly lower among Hispanics and African Americans than among white families ($F=82.43$, $pF=3.77$, $p=.02$) in this study. Conclusion: The comparison of QOL and contributing factors provides beginning evidence of the need for further work to identify mechanisms for intervening and reducing the negative burden of asthma on families. While we cannot correct SES differences, other resources and preventive strategies may help families better manage asthma.

Symposium 76C

FACTORS RELATED TO INTENTION TO SEEK PROFESSIONAL PSYCHOLOGICAL HELP IN SICKLE CELL POPULATION

Kira Branch, Psy.D.

Youth with SCD may be considered "triple vulnerable" for psychosocial difficulties given their age, chronic illness, and ethnic minority status. Underutilization of mental health resources is related to more negative psychological outcomes (Sheffield, et al., 2004). This population may be at increased risk of underutilization given the stigma of mental illness and cultural factors at play.

This study explored the relationship between medical and mental health severity, self-efficacy, and caregiver intention to seek help for youth with SCD. 35 youth with SCD (51% female; mean age 10 years) and their caregivers completed the PedsQL. The Psychosocial domain assessed subjective mental health severity; Physical domain assessed subjective physical functioning. Objective medical severity was a summation of hospitalizations, ER visits, and blood transfusions; subjective medical severity was a caregiver rating of pain severity. Caregivers rated intention to seek help on a 5-point Likert scale. Youth completed the Sickle Cell Self Efficacy Scale.

Subjective mental health severity was significantly correlated with caregiver-intention to seek professional psychological help ($r=.56$, $p=.004$); subjective medical severity ($r=.39$, $p=.05$) and physical functioning ($r=.38$, $p=.06$) exhibited a trend towards significance. Results suggest when caregivers perceive lower functioning, especially psychosocial, they are more likely to seek help for youth. Youth-rated illness variables, self-efficacy and objective medical severity were not significantly correlated with caregiver intention to seek help. Hierarchical regressions with caregiver-rated illness variables were significant (Mental health severity $R^2=.40$, $F(2, 21)=7.04$, $p=.005$; Medical Severity $R^2=.34$, $F(2, 22)=5.8$, $p=.009$; Physical Functioning $R^2=.32$, $F(2, 21)=5.03$, $p=.01$). Clinical implications will be discussed in the context of understanding demographic and cultural factors in increasing utilization of psychological services for this population.

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Symposium 77

8:45 AM-10:00 AM

ONCOLOGY INFORMATICS: PERSPECTIVES FROM BEHAVIORAL MEDICINE

Ellen Beckjord, PhD, MPH¹, April Oh, PhD, MPH², David K. Ahern, PhD², Lori L. DuBenske, PhD³, Bradford W. Hesse, PhD⁴

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Several trends are converging to bring the power of oncology-related informatics into the daily work of physicians, professional staff, researchers, and survivors. Trends include the adoption of health information technologies, as driven by "meaningful use" incentives provided by the Centers for Medicare and Medicaid Services; a pivot toward precision medicine, as announced in the 2015 State of the Union Address; along with recent advances in high-throughput computing and communications technologies. As a result, oncology in the 21st Century is becoming a discipline that is more predictive, pre-emptive, personalized, and participative than ever before. Paradoxically, this shift toward an informatics-intensive care system in cancer may create more problems than it solves. With an aging population, more complex treatments, and a burgeoning cohort of cancer survivors, the only way to confront an escalating demand is through informatics; however, informatics must be centered on the *behavioral* needs of patients and care teams or else they will fail. In this symposium, we will present three perspectives on oncology informatics taken straight from the principles embraced by behavioral medicine: (a) how informatics can be used to leverage public health and community assets to reduce health disparities across the cancer continuum (Oh); (b) how informatics-based assessments and interventions can be used to support behavior change and symptom management in cancer prevention and control (Ahern); and (c) how informatics can be used to support survivors and caregivers navigating treatment, including treatment for advanced disease, end-of-life decision making, and bereavement (DuBenske). Our discussant (Hesse) will weave these three perspectives – community, individual, and clinical – together to convey a vision for how informatics will be essential to accelerating progress on eliminating death and suffering due to cancer, and how the science of behavioral medicine will be instrumental to achieving this goal.

Symposium 77A

ADDRESSING CANCER DISPARITIES THROUGH COMMUNITY ENGAGEMENT: THE PROMISES OF INFORMATICS

Dr. April Oh, PhD, MPH

Significant health disparities continue to persist across the cancer control continuum (prevention, detection, diagnosis, treatment, and survivorship) despite decreases in cancer mortality and morbidity rates. Public health informatics (PHI) approaches offer the potential to address and reduce cancer health disparities by addressing the underlying social determinants of health. Applying community engagement approaches, through community-based participatory research (CBPR) in identification, development, evaluation, and implementation offers key advantages to enhanced sustainability, acceptability, and delivery of PHI. The CBPR approach allows community members and stakeholders to provide input from a culturally relevant perspective at each level of the development and/or use of PHIs. This presentation discusses the application of the CBPR approach to improve the use and adoption of informatics tools and platforms through two case study examples that are addressing two major social determinants of health disparities: institutional racism and information inequalities. Three common themes emerged from the two case studies that facilitated successful PHI project implementation: transparency, making data relevant, and capacity building. To ensure project success, the case studies also addressed challenges that may arise in PHIs such as digital health literacy, Internet and broadband accessibility, and PHI platform sustainability.

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Symposium 77B

ONCOLOGY INFORMATICS: BEHAVIORAL APPROACHES FOR CANCER CONTROL

Dr. David K. Ahern, PhD

The behavioral sciences and behavioral medicine have generated a robust knowledge base over the last two decades that can be leveraged to advance oncology informatics and improve cancer control. In this presentation, the most promising theoretical models and behavioral approaches for designing, developing, and evaluating digital health technologies and informatics solutions are highlighted. Examples in clinical care settings are given that illustrate how fundamental behavioral and psychological constructs inform the design and evaluation of clinical decision support systems for tobacco cessation, emotional distress screening and management, physical activity promotion, and for creating automated conversational agents for support and assistance in understanding complex consent forms. The future success of oncology informatics is predicated on drawing from the best available scientific evidence and behavioral informatics, enabled by behavioral medicine research, can serve as a core resource.

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Symposium 77C

INFORMATICS FOR ADVANCED CANCER: ADDRESSING PALLIATIVE, END OF LIFE, AND BEREAVEMENT CARE

Lori L. DuBenske, PhD

Despite great progress in the treatment of cancer as seen in the growing ranks of survivors, a significant number of people experience disease progression and death from the disease. People living with advanced cancer and their families have many unmet physical, psychological, and informational needs. Such needs are particularly focused around symptom management and treatment and end of life decisions. Palliative care, with its focus on symptom management, should be available to all patients to address these needs. End-of-life care can be facilitated by aligning the patient and family preferences with the decisions they make and the care they receive. Informatics extends opportunities for facilitating information exchange and decision support that may extend and enhance the patient care and outcomes. Furthermore, family needs continue after their loved one dies. A continued extension of the cancer support and information can benefit bereaved family members as they review decisions they made during their loved one's care. By offering a case example of the Comprehensive Health Enhancement Support System (CHESS) for advanced stage cancer, we reveal vital opportunities for cancer informatics to facilitate critical communication gaps in end of life care and facilitate quality of death and bereavement. Further, we will identify the opportunities for informatics in addressing the challenges of advanced disease, end of life, and bereavement through discussion of critical care issues, examples of existing eHealth applications and discussion of future directions.

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Symposium 78

8:45 AM-10:00 AM

ADDRESSING THE CHALLENGES OF TRANSLATING EVIDENCE-BASED PRACTICES IN VA AND DOD INTEGRATED HEALTHCARE

Jennifer Funderburk, PhD¹, Jennifer Wray, PhD², Anne C. Dobmeyer, PhD, ABPP³, Christina L. Vair, PhD⁴, Jeffrey Goodie, Ph.D., ABPP⁵

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As behavioral health providers are increasingly integrated into patient centered medical homes (PCMH), healthcare organizations are searching for effective ways to translate evidence-based practices into routine clinical practice. The Veterans Health Administration (VHA) and Department of Defense (DoD) are two of the largest organizations training behavioral health providers in integrated healthcare and have demonstrated a strong commitment to both the provision of integrated care as well as the delivery of evidence-based prevention and treatment services. However, few studies have examined how to best translate research findings into clinical practice of integrated behavioral health providers. This symposium will present various strategies that have been used in an effort to translate evidence-based strategies into the clinical practice of integrated behavioral health providers using data gathered from several program evaluation and quality improvement initiatives within the VHA and DoD. The first presentation will summarize the DoD's training program designed to promote the delivery of evidence-informed team-based integrated healthcare, with focus given to program evaluation results and improvements. The second presentation will share results of a national survey of psychology intern and postdoctoral trainees that examined the use of a recently validated fidelity measure, the Primary Care Behavioral Health Provider Adherence Questionnaire, to identify trainee clinical practices and specific evidence-based training needs in Integrated Primary Care (IPC). The third presentation will focus on the delivery of an evidence-based brief alcohol intervention training for integrated behavioral health providers in the VHA via a computerized webinar platform. Discussion will focus on identifying research gaps that may help guide continued efforts to translate evidence-based IPC practices into PCMHs.

Symposium 78A

EVALUATION OF A BRIEF ALCOHOL INTERVENTION TRAINING FOR INTEGRATED BEHAVIORAL HEALTH PROVIDERS IN PRIMARY CARE

Jennifer Wray, PhD

Brief alcohol interventions (BAIs) are an evidence-based treatment for problematic drinking, but rates of delivering these interventions in primary care (PC) are low. Research efforts have shifted from demonstrating the effectiveness of these interventions to focusing the successful implementation of BAIs. While previous work has focused on training PC providers, nursing staff, and medical residents in BAI delivery, no studies to date have focused on training integrated behavioral health providers (BHPs). In order to address this gap, the VA Center for Integrated Healthcare (CIH) conducted in-person BAI training workshops for BHPs. Based on feedback obtained during the first phase of this study, we translated the in person workshop into a 90 minute webinar and provided phone based “office hours” following the webinar to provide additional support. 89% of BHPs who participated in the webinar completed a 60 day follow up survey. Program evaluation data demonstrate that BHPs reported the BAI webinar was helpful in their clinical practice ($M=4.4$, $SD=1.1$) for learning how to assess alcohol use ($M=4.2$, $SD=1.1$) and implement BAIs ($M=4.1$, $SD=1.0$). They also reported the webinar was an effective platform for learning versus an in-person workshop ($M=3.9$, $SD=1.1$). This program evaluation research helps to advance the implementation of BAIs in PC by evaluating a training for BHPs, who are well positioned to provide BAIs but often lack the necessary training to do so. Future research from our group will focus on testing a competency interview that will be tested in the next webinar. An additional area of future research will be to evaluate patient-level outcomes associated with BHP-delivered BAIs.

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Symposium 78B

PRIMARY CARE BEHAVIORAL HEALTH TRAINING IN A LARGE MEDICAL SYSTEM: SYSTEMATIC DEVELOPMENT, IMPLEMENTATION, AND EVALUATION

Dr. Anne C. Dobmeyer, PhD, ABPP

The expansion of integrated behavioral health services in primary care requires a trained behavioral health workforce with specific competencies to deliver effective, evidence-informed, team-based care. Most behavioral health providers do not have training or experience working as primary care behavioral health consultants (BHCs), and require structured training to function effectively in this role. This presentation discusses one such training program developed to meet the needs of a large health care system initiating widespread implementation of the primary care behavioral health (PCBH) model of service delivery. It details the Department of Defense's (DoD's) experience in developing its extensive BHC training program, including challenges of addressing personnel selection and hiring issues, developing and implementing a phased training curriculum, conducting program evaluation, and improving the training over time to address identified gaps. Future directions for training improvements and lessons learned in a large healthcare system are discussed.

Symposium 78C

IDENTIFYING CLINICAL PRACTICE PATTERNS OF INTEGRATED PRIMARY CARE PSYCHOLOGY INTERNS AND POSTDOCS: IMPLICATIONS FOR TRAINING

Dr. Christina L. Vair, PhD

Psychologists are increasingly called upon to help address the biopsychosocial needs of primary care (PC) patients, though few emerge from advanced training with sufficient understanding of the essential competencies needed for evidence-based integrated PC practice. The Primary Care Behavioral Health Provider Adherence Questionnaire (PPAQ) is a validated measure developed to examine fidelity to integrated PC behavioral health practice by providing information about both essential and prohibited provider behaviors. One use for this measure is within program evaluation, where the PPAQ can provide information to administrators and researchers on potential gaps in provider translation of evidence-based practices. Newly trained psychology pre-doctoral interns and postdoctoral fellows represent a substantial portion of the future workforce within this field. This study presents data on responses to the PPAQ from a national electronic survey of psychology interns and fellows ($N = 100$) with prior training experiences in PC in an effort to examine current practice patterns for this group. Consistent with adherence to evidence-based integrated care practice, trainees had a higher mean score on PPAQ essential items and lower mean score on prohibited items when compared to a sample of seasoned PC behavioral health providers. Subsequent analyses on PPAQ domains closely associated with direct provider behavior demonstrated that trainees who identified practicing in an integrated care setting had higher mean scores on these domains ($p = .005$) than those practicing outside VA. There were no significant differences on domain scores between interns and post-docs or those identifying as having a cognitive-behavioral theoretical orientation. Significant correlations ($p < .01$) between domain scores and comfort in use of evidence-based interventions, frequency of use of interventions, and total intervention training were identified. Findings will be discussed in relation to implications for facilitating evidence-based training and addressing notable gaps in PC psychology workforce development.

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Symposium 79

8:45 AM-10:00 AM

THE IMPACT OF ADOLESCENT SLEEP LOSS ON THE CULTURE OF HEALTH: POTENTIAL POLICY INTERVENTIONS AND IMPLICATIONS

Janet B. Croft, PhD¹, Robert Whitaker, MD, MPH², Judith A. Owens, MD MPH³, Tracy E. Costigan, PhD⁴

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Chronic sleep loss among adolescents in the United States exists in epidemic proportions and is considered as public health crisis by leading advocates for children's health such as the AMA, the CDC and the American Academy of Pediatrics. Of particular concern are the effects of insufficient sleep and circadian dysregulation in adolescents on physical (e.g., increased risk of obesity and type 2 diabetes) and mental health (eg, increased rates of depression and suicidal ideation), safety (eg, increased risk of drowsy driving accidents and sports-related injuries) and performance measures (eg, lower grades and standardized test scores). Multiple health risk behaviors have also been linked to chronic sleep loss in adolescents, including alcohol consumption, substance abuse, and serious behavior problems such as violence and delinquency.

Given the far-reaching potential for short and long-term adverse consequences and the virtually ubiquitous nature of chronic serious sleep loss in adolescents, the development of strategies targeted towards mitigation of these negative impacts becomes paramount. While implementation of behavioral interventions to increase sleep duration in individual patients may be an important and worthwhile goal in clinical settings, it is likely that a more widespread and far-reaching set of strategies and policies are needed to address this concern as a public health issue. Substantial empirical evidence now supports a healthy school start time for middle and high school students of 8:30a or later as likely to ultimately have one of the most impact on healthy sleep in adolescents.

This symposium will focus on two key aspects of the adolescent sleep health crisis: 1) an overview of the biological, environmental and sociocultural etiologies of adolescent sleep loss and the impact of chronic sleep loss on the culture of health in adolescents, and 2) finding solutions, with a focus on the empirical evidence supporting the implementation of healthy school start times as a health policy intervention, including a “real world” example.

Symposium 79A

FINDING HEALTH POLICY SOLUTIONS: HEALTHY SCHOOL START TIMES

Janet B. Croft, PhD

One of the most salient and remediable factors impacting adolescent sleep health is that of school start times. The American Academy of Pediatrics has recently recommended that middle and high schools should start no later than 8:30 AM. Surveillance systems are beginning to assess the extent of school start times. Epidemiologic studies in schools have demonstrated the impact of start time policy changes on adverse consequences such as shorter sleep duration, increased sleepiness, difficulty concentrating, behavior problems, and absenteeism. Over the last 15 years a small but growing number of school districts have responded to research regarding insufficient sleep among middle and high school students by implementing healthy school start times. This presentation will review the extent of unhealthy school start times in the US and provide a brief synopsis of empirical evidence supporting the positive impact of school start time change on sleep and sleepiness, mood and mental health parameters, academic metrics, behavior, and health and safety outcomes.

Symposium 79B

A QUASI-EXPERIMENTAL STUDY OF THE IMPACT OF SCHOOL START TIME CHANGE ON ADOLESCENTS' SLEEP, HEALTH, AND ACADEMIC PERFORMANCE

Dr. Robert Whitaker, MD, MPH

In the 2015-16 school year Fairfax (VA) County Public Schools, the nation's 9th largest public school system, implemented school start time changes in middle and high schools with the intention of increasing nighttime sleep duration for older adolescents. This policy change occurred after an 18-month period of stakeholder input in this large and sociodemographically diverse school district. With funding from the Robert Wood Johnson Foundation, the impact of this policy change on adolescents' sleep, health, and academic performance is being evaluated in a quasi-experimental study conducted as a community-academic partnership. In the spring of 2015, before the policy change went into effect, ~2200 students and their parents completed online surveys that included self-report measures on: sleep duration, chronotype (morningness versus eveningness), daytime sleepiness, mood, self-regulation, body mass index, injury, absences, and academic performance. In a subsample of ~300 students, sleep log and actigraphy data were also collected over seven days. These online survey data are being collected again in the spring of 2016 after the policy change goes into effect in the fall of 2015. At baseline, those with longer sleep duration reported having significantly better mood and self-regulation, and these outcomes were also significantly associated with morning chronotype. In this presentation these and other baseline findings will be presented along with information on the process of establishing the community-academic research partnership and the considerations made in designing a policy impact study in a real-world setting.

Symposium 79C

CAUSES AND CONSEQUENCES OF ADOLESCENT SLEEP LOSS

Dr. Judith A. Owens, MD MPH

The reasons behind the current epidemic of insufficient sleep are complex and interrelated. From a biological perspective, at about the time of pubertal onset, most adolescents begin to experience a sleep-wake "phase delay" (later sleep onset and wake times), manifested as a shift of up to two-hours relative to sleep-wake cycles in middle childhood. Two principal biological changes in sleep regulation are thought to be responsible for this phenomenon. One is a delay of the evening onset of melatonin secretion, expressed as a shift in circadian phase preference from "morning" to "evening" type, resulting in difficulty falling asleep at an earlier bedtime. A second factor is an alteration in regulatory homeostatic "sleep drive" during adolescence, in which the accumulation of sleep propensity while awake slows relative to younger children. Thus, it is typically easier for adolescents to stay awake later. At the same time, adolescent sleep needs do not decline from pre-adolescent levels, and optimal sleep amounts remain in the range of 8.5 to 9.5 hours per night for most teenagers. On a practical level, this means that the average adolescent has difficulty falling asleep before 11:00 P.M., and is best suited to wake around 8:00 A.M.

The sleep-wake changes that flow from this biological maturation are enmeshed with such environmental factors and lifestyle/social demands as homework, extracurricular activities, after-school jobs, and use of technology. As a result, most teenagers stay up late on school nights, getting too little sleep, and then sleep in late on weekends to "catch-up" on sleep. Although this weekend over-sleeping can help offset the weekly sleep deficit, it can worsen circadian disruption and morning sleepiness at school.

Finally, the potential consequences on the culture of health of adolescent sleep loss is profound, and ranges from academic failure to depression and suicidal ideation, negative cardiovascular and metabolic effects, increased health risk behaviors and safety concerns, such as drowsy driving.

Symposium 80

8:45 AM-10:00 AM

THERE'S AN APP FOR THAT – SENIORS GETTING ACTIVE! USING TECHNOLOGY TO PROMOTE PHYSICAL ACTIVITY IN OLDER ADULTS

Sandra J. Winter, PhD, MHA¹, Sandra Jane. Winter, PhD, MHA¹, Siobhan McMahon, PhD², Neha Gothe, PhD³, Cynthia M. Castro Sweet, PhD⁴

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Older adults of all ethnicities are increasingly using technology, including health-promoting devices and apps. In keeping with the theme of the 2016 conference "Behavioral Medicine at a Crossroads: 21st Century Challenges and Solutions", this symposium will examine the possibilities and limitations associated with the use of health promoting technologies by older adults, focusing specifically on technologies aimed at increasing physical activity. The technologies that will be presented include a commercially produced wearable activity monitor, smartphone apps that have been custom developed using behavior change theories, and accelerometers, which many view as the "gold standard" of objective physical activity measurement for research purposes. The study populations span African Americans, Latinos and Whites. Data gathered includes various objective and self-reported measures of physical activity, sitting time, perceived ease-of-use, usefulness and acceptance. These studies demonstrate the feasibility and acceptability of having older adults wear devices that measure their physical activity. The symposium will conclude with an open discussion regarding barriers and facilitators of health promoting technologies among older adults as well as new innovations in this field.

Symposium 80A

INITIAL TESTING OF SMARTPHONE APPS WITH MOTIVATIONAL FRAMEWORKS TO PROMPT WALKING AND REDUCE SITTING AMONG OLDER LATINOS

Dr. Sandra Jane. Winter, PhD, MHA

Background: Older Latinos have low rates of physical activity participation and are highly sedentary, but are often overlooked in studies using mobile technologies to improve health behaviors. In this 1st generation study, 3 smartphone apps were tested to increase walking and decrease sitting time among older Latinos by drawing on three different motivational frameworks: Affect (operant conditioning, transference to an avatar), Social (comparisons, norms, support), and Analytic (goal setting, self-monitoring). **Methods:** Latino participants (N=35; 88% women; M_{age}=64.1 years, SD=10.8; 81% in "good" health) were randomized to 1 of 3 smartphone apps or a control arm. The CHAMPS walking measure and Australian sedentary measures were collected at baseline and 8 weeks. **Results:** At baseline, participants reported 296 mins/wk (SD=390) of walking and 65 hrs/wk (SD=46) of sitting time with no significant differences between arms. For changes in pre-post walking, there were no statistically significant differences between intervention and control arms, but effect sizes were large, with participants walking more in the Affect (+336±331 mins/wk, p=0.14, d=0.85) and Social arms (+200±215 mins/wk, p=0.91, d=1.16) but not in the Analytic arm (-6±462 mins/wk, p=0.39, d=-.16) compared to Control (+49±135 mins/wk). For changes in pre-post sitting time, there were no statistically significant differences between intervention and control arms and effect sizes were small with decreases in sitting time noted only in the Affect arm (-6±33 hrs/wk, p=0.52, d=0.04) but not in the Social (+0.4±28 hrs/wk, p=0.99, d=0.19) or Analytic arm (+3±13 hrs/wk, p=0.57, d=0.27) compared to the Control (-8±55 hrs/wk). **Conclusion:** Within the constraints of small samples and large variability, these results suggest the potential of theory-driven apps to change walking behavior. Confirmatory studies with larger sample sizes are needed. Many wearables and apps use an analytic framework, but an Affect or Social framework may be more appropriate for older Latinos. Sitting time may need alternative approaches.

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Symposium 80B

OLDER ADULTS' EXPERIENCES USING A WEARABLE DEVICE FOR TRACKING PHYSICAL ACTIVITY

Siobhan McMahon, PhD

Background: Commercially available wearables have the potential to facilitate older adults' physical activity; however few studies have examined their experiences with these devices. We conducted a survey to understand older adults' short and long term experiences with a popular wearable, as a basis for developing recommendations regarding the use of wearables to facilitate physical activity (PA) tracking practices and behavior in this population. **Methods:** Data was from a randomized control trial designed to assess the effect of a fall-reducing intervention to increase physical activity behavior. Ninety-five community-dwelling older adults (n=95) were provided Fitbit Ones™ (FB) and completed surveys at the end of 10 weeks of active intervention and after a 6 month follow-up period. The 10 item survey, based on assessed 3 domains of the technology acceptance model, assessed perceived ease-of-use, perceived usefulness, and acceptance. **Results:** Participants were primarily women (75%) ranging in age from 70 to 96 (M=79, SD = 7). Most participants (68 – 82%) agreed or strongly agreed that the FB was easy to use, useful, and acceptable at 6 months of follow-up. Median ratings dropped, between 10 weeks and 6 months follow-up, for ease-of-use ($p = .001$) and acceptance domains ($p = .03$); but not perceived usefulness ($p = .19$). Ratings did not differ based on gender or education; however, ratings among participants in the 80+ age group were lower than ratings from other age groups across all domains at both time points (p 's < .05). However, at 6 months follow-up most participants in the 80+ age group (69 – 81%) agreed or strongly agreed that the FB was easy to use, useful, and acceptable. **Conclusion:** Older adults in this study evaluated the FB as easy to use, useful and something they intend to keep using. Our findings support that wearables are feasible for older adults (70-90+) to use in ways that support their unique PA goals. Future research examining the effect of wearables on PA outcomes will enhance our understanding of their potential for facilitating PA behavior.

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Symposium 80C

ACCELEROMETER AND SELF-REPORTED PHYSICAL ACTIVITY AMONG URBAN AFRICAN AMERICAN OLDER ADULTS

Neha Gothe, PhD

Background: Increasing physical activity and reducing inactivity among older adults is an important public health priority. Accelerometry is becoming an increasingly popular method to collect objective, unbiased physical activity data to understand physical activity patterns and assess the effectiveness of interventions. The purpose of this study was to assess the levels and patterns of physical activity (PA) among urban African American older adults. **Methods:** African American older adults (N=110, Mean =64.8yrs, sd=5.7, females=96) wore an Actigraph Accelerometer for 7 days and completed an activity log. Participants also completed self-report measures including the Physical Activity Scale for the Elderly and Godin's Leisure Time Exercise Questionnaire. **Results:** Utilizing the NHANES criteria, accelerometer data showed that participants engaged in 8.01 minutes/day (sd=12.4) of moderate to vigorous physical activity (MVPA). 72.6% recorded no MVPA (0 minutes), 14.2% reported 1-9 minutes, 9.4% reported 10-19 minutes and 3.8% reported more than 30 minutes of MVPA/day. The accelerometer estimates correlated with both self-reported physical activity measures, with the GLTEQ ($r=.32$, p Conclusions: Accelerometers should be consistently used in conjunction with self-report measures of PA. Although the two provide consistent data, adherence to physical activity recommendations (150 minutes/week of MVPA) according to accelerometer-measured activity remain substantially low among African American older adults (our results ~56.07minutes/week). These statistics underscore the need to design and implement interventions to promote physical activity among minority segments of the population taking into account 'urban' environmental, social and personal barriers and challenges to engaging in PA.

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Symposium 81

8:45 AM-10:00 AM

FEMALE SEXUAL HEALTH AFTER CANCER: NEXT STEPS IN INTERVENTION AND TREATMENT

Kristen M. Carpenter, PhD¹, Jennifer Barsky. Reese, PhD², Jeanne Carter, PhD³, Sharon L. Bober, PhD⁴, Julia H. Rowland, PhD⁵

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With recent advances in cancer treatment, the majority of US women diagnosed with cancer will also become long-term cancer survivors. However, most women diagnosed and treated for cancer will also face distressing, treatment-related sexual sequelae including loss of desire, decreased satisfaction, pain, and changes in intimacy. Side effects last for years and negatively impact quality of life. Though cancer-related sexual dysfunction has been characterized in detail, only limited evidence-based intervention is available, and most medical treatments for female sexual dysfunction are not approved for cancer survivors. There is a significant need for evidence-based interventions that can be disseminated to millions of women who suffer from sexual dysfunction.

This symposium will highlight examples of cutting-edge intervention research addressing female sexual health after cancer. Dr. Carter will speak about her work studying the effectiveness of sexual/vaginal health treatment strategies in breast cancer patients/survivors. Her evaluation of clinical compliance and outcomes in over 150 pts has shown improvement of vaginal and vulvar symptoms, sexual function, and activity. Dr. Reese will report on the developmental (qualitative) phase of an NIH-funded study tailoring a couple-based telephone Intimacy Enhancement intervention previously tested in colorectal cancer survivors to meet the needs of breast cancer survivors with sexual concerns and their partners. Dr. Carpenter will discuss results from a randomized controlled trial (RCT) of a psychological intervention for coping with adverse sexual sequelae of gynecologic and breast cancer diagnosis and treatment. Dr. Bober will speak about the current findings from a low-intensity, multi-modal sexual health intervention for women suffering from sexual dysfunction after ovarian cancer. Dr. Julia Rowland, director of NCI's Office of Cancer Survivorship, will serve as the Discussant. The research presented in this symposium represents some of the most innovative work being today in the field of behavioral medicine and female sexual health after cancer.

Symposium 81A

FROM RCT TO THE CLINIC: INTEGRATING EVIDENCE-BASED SEXUAL HEALTH INTERVENTION INTO CLINICAL PRACTICE

Kristen M. Carpenter, PhD

Dissemination of evidence-based interventions represents one of the biggest challenges in psychosocial oncology. Thus, our research program seeks not only to develop interventions that are effective, but also feasible and disseminable. With this mission in mind, we have developed an innovative "tiered" sexuality support structure for women treated at the Ohio State University CCC. The first tier includes a sexuality education session, offered monthly by one of our clinical psychologists. The second and third tiers are offered through our Women's Integrated Sexual Health (WISH) service. The second tier involves individual consultation with a mental health professional. For patients requiring more intensive intervention, we offer a third tier, our Sexual Health and Relationship Enhancement (SHARE)© program. We previously developed and pilot-tested SHARE, a manualized group intervention, in a sample of gynecologic cancer survivors (R21 CA149675). Components include cognitive-behavioral, sex therapy, and vaginal health strategies selected to reduce sexual distress, improve sexual function, and increase sexual satisfaction. In the randomized, controlled trial (N=68), SHARE proved feasible and acceptable with excellent retention (81% at 9-months) and adherence (average sessions completed = 10 of 12), as well as efficacious. Mixed-effects models (intent-to-treat) indicated decreased distress related to sexuality ($p=.049$), improved overall sexual responsiveness ($p=.04$), decreased sexual pain/discomfort ($p=.02$), and increased sexual satisfaction ($p=.02$) compared to controls (Enhanced Standard Care, ESC: relaxation training & sexuality education). Extensions of the SHARE research are underway, including a pilot trial adapting SHARE for the breast cancer context. Results from the initial RCT indicated that a subset of patients benefitted from ESC; moderators of treatment response in both RCT arms will be discussed vis-à-vis further refinement of the program, as well as implications for our second tier service. Challenges to integration of sexual health into our broader clinical programs will also be discussed.

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Symposium 81B

PHONE-BASED INTIMACY ENHANCEMENT INTERVENTION FOR COUPLES FACING BREAST CANCER: TAILORING A PROTOCOL TO MEET PATIENTS' NEEDS

Jennifer Barsky, Reese, PhD

Background: Over half of breast cancer survivors experience sexual issues, which typically do not resolve on their own without intervention. Previously, we demonstrated that a 4-session telephone-based Intimacy Enhancement (IE) intervention improved intimacy and sexual outcomes for colorectal cancer patients and partners. Tailoring this intervention to meet the specific needs of women with breast cancer may lead to an efficacious intervention for this population. **Objectives:** To tailor the IE intervention to address the sexual concerns of breast cancer survivors using information from focus groups with survivors. **Methods:** We conducted three qualitative focus groups among partnered women who completed initial treatment for breast cancer and reported sexual concerns [N=15; mean age=52.4, SD=10.7; Range=27-67; 73% White; mean sexual concerns=6.9/10; SD=1.9]. We aimed to identify preferences for content and structure of the planned IE intervention. Two independent coders analyzed the qualitative data using a framework approach and N Vivo software to organize data. **Results:** Qualitative analyses yielded several critical issues in tailoring the IE intervention: (1) the nature of sexual/intimacy changes (e.g., loss of breast sensation), (2) preferences for whether and how to include partners (e.g., telephone-based format for anonymity), and (3) approaches to optimize the appropriateness and effectiveness of intervention activities (e.g., modifying sensate focus exercises to deal with breast touching). We are currently finalizing the patient materials through cognitive interviews and expert review. Next we will evaluate the feasibility, acceptability, and preliminary efficacy of the IE intervention through an RCT with 30 couples. **Conclusions:** The tailored IE intervention holds promise in improving intimacy and addressing sexual concerns in couples facing breast cancer.

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Symposium 81C

PROGRAM EVALUATION OF A FEMALE SEXUAL MEDICINE AND WOMEN'S HEALTH PROGRAM

Jeanne Carter, PhD

Objectives: To evaluate the effectiveness of simple sexual/vaginal health treatment strategies in women seeking treatment at a female sexual medicine program, and to evaluate compliance and clinical outcomes. **Methods:** Demographics, medical information and clinical assessment from 161 new visits with at least 1 follow-up were analyzed. Results at last visit were compared by compliance with treatment recommendations for the outcomes vaginal pH, moisture, pain with exam, vaginal assessment of dryness, soreness, & irritation and future confidence. **Results:** The mean number of follow-up visits was 3.2 (range, 2-10). The majority of women had a history of breast (88, 55%), gynecologic (50, 31%), or anal/colorectal (14, 9%) cancer. Mean age was 54.6 years (range, 23-79), and 73% (117) were married or in an intimate relationship. Treatment recommendations included use of vaginal moisturizers, lubricants with sexual activity, pelvic floor exercises, and dilator therapy. At last visit, 94% of women complied with the clinical recommendation to moisturize at least 2 times to 5+ times per week. Vaginal pH scores >6.5 declined from 29% at Visit 1 to 22% at last visit. 20% of women who moisturized 4+ times a week had pH>6.5 at last visit compared to 33% of women who moisturized 2-3 times per week. Approximately 2/3 of women increased use of pelvic floor exercises. At Visit 1, 42% of the women reported current sexual activity with a partner, and sexual activity rates increased over time: 51% at Visit 2 and 58% at Visit 3. Confidence about future sexual activity increased from 46% at Visit 1 to a rate of 64% at last visit. **Conclusions:** Promising trends with the use of vaginal health strategies were observed in women attending the female sexual medicine program, with improvement in confidence, sexual activity, and vaginal pH over time. Preliminary findings suggest that simple strategies, education, and support may improve vaginal/sexual health concerns in cancer survivorship.

Symposium 81D

PRELIMINARY RESULTS FROM THE SEXUAL THERAPY AND REHABILITATION AFTER TREATMENT FOR OVARIAN CANCER (START-OC) STUDY

Dr. Sharon L. Bober, Ph.D.

Background: For ovarian cancer (OC) survivors, serious sexual dysfunction is one of the most distressing long-term side effects of treatment, with up to 90% survivors reporting a loss of interest in sexual activity for years after diagnosis. Despite the prevalence and magnitude of the problem, treatment-related sexual problems are not addressed for most survivors. **Methods:** We are currently piloting a novel psychosexual intervention to help women manage sexual changes and improve sexual functioning after ovarian cancer treatment. Guided by Self-Determination Theory, this group-based intervention also aims to enhance women's self-efficacy to address problems. **Eligibility criteria include:** OC diagnosis, functional ability, and sexual dysfunction. Women participate in a single half-day workshop, complete questionnaires, and engage in a booster telephone session. Detailed workshop evaluations are collected to assess women's feedback of the group session. This study is currently enrolling. **Results:** To date, 369 women have been contacted, of which 42 (11.4%) have attended or are scheduled to attend a group session. Preliminary feedback data indicate high favorability of the group session; 100% of the women (N=16) agreed or strongly agreed that the content of the group session was easy to understand and that the group session gave helpful information for addressing treatment-related sexual problems. Additionally, 100% of participants agreed that they were satisfied with the group session and enjoyed participating in it. **Conclusions:** Preliminary data show that women report multiple benefits from the session content and are highly satisfied with the group session. However, low response rates raise several questions with regard to timing and recruitment of a sexual health intervention after OC treatment. Next steps include quantitative analyses of changes in sexual function, sexual knowledge, and sexual self-efficacy consequent to the group intervention.

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**Saturday
April 02, 2016
10:15 AM-11:15 AM**

Panel Discussion 21

10:15 AM-11:15 AM

CAREERS IN BEHAVIORAL MEDICINE: NAVIGATING THE CHALLENGES AND OPPORTUNITIES OF ACADEMIC CAREER TRANSITIONS AND ADVANCEMENTS

Karen Oliver, Ph.D.¹, Christie Befort, PhD², Tricia Leahey, PhD³, Eric S. Zhou, Ph.D.⁴, Karlene Cunningham, PhD⁵

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Academic careers in behavioral medicine generally include varied combinations of research, teaching, clinical care, and administration. As one's career progresses, activities, expectations, and responsibilities will change as well, due to both planned and unforeseeable circumstances. Transitioning through stages— from trainee, to junior faculty, to mid-career level, and beyond— can bring about uncertainty and stress, as well as challenges related to work-life balance, maintaining motivation, coping with fluctuating demands in the work environment, and creating meaning in your work. Considerations regarding promotion, mentorship, leadership, funding, institutional or leadership transitions, balancing increasing demands on time or performance, and considering changes in work setting, position, or environment, may also occur. This panel will discuss these opportunities and challenges across behavioral medicine academic careers, identify commonalities across differing career stages, and share strategies for successfully coping with challenges and capitalizing on opportunities. Discussion will include panelists' personal experiences with early- to mid-career transition points. They will share "lessons learned" and provide strategies for audience members to consider when faced with their own unique career transition challenges. This panel is designed to be interactive and there will be time for questions and discussion.

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Panel Discussion 22

10:15 AM–11:15 AM

TRAINING CROSSROADS: PREPARING GRADUATE STUDENTS FOR INTEGRATED PRIMARY CARE

Jeffrey Goodie, Ph.D.¹, Jeffrey D. Quinlan, MD², Catherine M. Ware, M. A.³, Amanda Gehrke, B.S.⁴, Omni Cassidy, MS⁵

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The 21st Century has already seen an explosion of interest in integrating behavioral health providers into primary care. The Department of Defense and Veterans Affairs health care systems have hired hundreds of new providers to serve as behavioral health consultants to provide care within primary care settings, and other healthcare systems are expanding their use of behavioral health providers in these roles. Most behavioral health providers never received the training to adequately prepare them for these unique positions. This integration represents one of the many crossroads for behavioral medicine. Graduate programs are working to change their curriculum so that their graduates are ready for this workplace. A new integrated primary care course was developed to begin training graduate students for working in the primary care environment. The course was developed and taught collaboratively between a clinical health psychologist and family physician. The panel discussion will include descriptions by these two faculty about the foundational requirements for students before taking the course, the course objectives and format, and how students were trained to understand the research, practice, and policies associated with integrated care. Student panelists will reflect on their experiences from the course and the impact on their current practicum experiences. Panelists will engage in an interactive discussion with audience members about ways of creating or adapting their curriculum and experiences to prepare for the integrated primary care environment.

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Panel Discussion 23

10:15 AM–11:15 AM

TALK WITH THE DIRECTORS: TRAINING, SUPERVISION, AND SUSTAINABILITY IN INTEGRATED BEHAVIORAL MEDICINE PROGRAMS

Cori E. McMahon, Psy.D.¹, Efrain A. Gonzalez, Psy.D., M.S.ClinPharm, ABPP (Clinical)², Guy Montgomery, PhD³, David A. Moore, Psy.D.⁴, Kelly Gilrain, PhD⁵

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The integration of behavioral health and primary care services has been the subject of focus in both the medical and behavioral health literature for almost a decade. This work has been motivated by an increasing understanding of the impact of comorbid mental health and substance use disorders on chronic health problems, resulting high rates of premature mortality, and increased cost to the health system (Manderscheid & Kathol, 2014). The literature suggests that the incidence of depression as a comorbidity with chronic disease ranges from 24% to 40% in a normalized population, that psychological intervention for those with heart disease can reduce further cardiac events by 75% as compared to medical care and medication alone (Sobel, 2000), and as much as 85% of physician visits are for problems that have a significant psychological and/or behavioral component. Common barriers to establishing integrated behavioral health programs include funding, billing and reimbursement, and infrastructure within the health system to support the mental health needs that accompany medical issues. However, better identification of behavioral health concerns and better targeting of care to those needs, particularly using interdisciplinary collaborative care, often leads to lowered overall medical cost and to more cost-effective treatment when properly designed. (Blount, et al, 2007). Talk with the Directors of three integrated Behavioral Medicine programs about their program models, approaches to clinical supervision, experiences with hospital business and politics, and the necessary balance of clinical work, research, and education for sustainability within a larger healthcare system. Training Directors from the Division of Behavioral Medicine at Cooper University Hospital/MD Anderson Cancer Center at Cooper, Jackson Memorial Medical Center Medical Psychology, and Mt. Sinai Medical Center Integrative Behavioral Medicine will engage in discussion of timely topics in behavioral medicine training, supervision, documentation, and integration of behavioral and physical health at their respective institutions. Attention will be given to audience engagement via question and answer time.

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Panel Discussion 24

10:15 AM–11:15 AM

DEVELOPING NOVEL INTERVENTIONS AND ADVANCING THEORY: KEYS TO SUCCESSFUL COLLABORATIONS BETWEEN BASIC AND APPLIED SCIENTISTS

Marc T. Kiviniemi, BA, PhD¹, Austin S. Baldwin, PhD², Jasmin A. Tiro, PhD³, Jamie L. Studts, PhD⁴, Amy McQueen, PhD⁵, Bonnie Spring, PhD⁶

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Collaborations between basic and applied behavioral scientists are important to advancing health behavior theory and behavioral medicine research. By addressing basic behavioral science questions in an applied context, the boundary conditions of effects observed in the lab can be tested. In addition, translating basic behavioral science findings facilitates streamlined development and implementation of novel behavioral interventions with high potential for impact. The NIH pushes these research agendas through its current funding priorities that require interdisciplinary teams with complementary expertise. The prospect of forming such interdisciplinary collaborations can be daunting to graduate students, trainees, and early career researchers. In this panel discussion, five researchers currently engaged in team science projects that involve basic and applied scientists will discuss their perspectives on: 1) the opportunities and challenges of such collaborations, 2) how to design and execute studies to ensure the different objectives of basic and applied science are met, 3) keys to making the collaborative relationships successful and avoiding common pitfalls, and 4) training and mentoring opportunities for team science. The 45-minute panel discussion will be followed by 15-minute organized roundtable discussions in which the panel members will be able to answer questions from the attendees.

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Panel Discussion 25

10:15 AM–11:15 AM

POTENTIAL CONFLUENCE BETWEEN MEDICAL INFORMATICS AND BEHAVIORAL SCIENCE TO ADVANCE PRECISION HEALTHCARE

Bryan Gibson, DPT, PhD¹, Heather Cole-Lewis, PhD, MPH, MA², Timothy Bickmore, PhD³, David K. Ahem, PhD⁴, William Riley, Ph.D.⁵

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Electronic Health Records are increasingly incorporating patient generated data, including patient reported outcomes and measures of social and behavioral determinants of health. Simultaneously behavioral scientists are actively working to develop ontologies that define and codify the relationships between the constructs, techniques and measures described by theories of behavior change. This is an opportune time for Informaticists and Behavioral Scientists to foster conversation and bridge the two communities. The aim of this panel is to discuss how these emerging developments might converge and lead to fruitful collaborations.

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Panel Discussion 26

10:15 AM–11:15 AM

HEALTHCARE TRANSFORMATION IN PRIMARY CARE BEHAVIORAL HEALTH

Ryan R. Landoll, Ph.D.¹, Elizabeth Najera, Ph.D.², Matthew Nielsen, Psy.D.³, Kathryn E. Kanzler, PsyD, ABPP⁴, Kathryn K. Waggoner, PsyD, ABPP⁵, Mario Nicolas, Ph.D.⁶

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Integrating behavioral health care into primary care settings has demonstrated cost savings as well as improved satisfaction for patients and providers, but challenges to improve service delivery remain. The United States Air Force (USAF) established their “Behavioral Health Optimization Program (BHOP),” based on the Primary Care Behavioral Health model, which has benefitted from standardized training models and service delivery methods for nearly twenty years, yielding many positive findings. The chair and three other panelists will discuss their collective and individual experiences with BHOP, focusing on applicability to a wide range of civilian Patient Centered Medical Homes. The first panelist, serving as the USAF program manager, will highlight the growth of BHOP in the past fifteen years, including data on patient and provider satisfaction from treatment facilities around the world. The second panelist, a military behavioral health consultant, will discuss and present compelling data on a pilot USAF project that shifted allocation of behavioral health assets from specialty mental health clinics to integrated primary care clinics, and changed the access point for mental health services from specialty care to primary care. The third panelist is a leader in the integrated behavioral health field and with a unique perspective from working in both military and civilian integrated primary care settings, will highlight the generalizability of the several BHOP study findings to other settings. Throughout the panel, the Chair, a pilot study investigator and USAF trainer, will facilitate discussion as well as address the unique challenges and opportunities of implementing this service delivery transformation. The interactive discussion will engage audience members as they learn about the innovations in the USAF healthcare system that can be applied to their work in integrated behavioral health in primary care.

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Panel Discussion 27

10:15 AM–11:15 AM

ENGAGING COMMUNITY HEALTH WORKERS AS RESEARCH FACILITATORS: REDUCING THREATS TO DATA FIDELITY VIA TECHNOLOGY AND EDUCATION

Camille Nebeker, EdD, MS¹, Lisa Quintiliani, PhD², Christina Holub, PhD, MPH³

¹UC San Diego | School of Medicine, La Jolla, CA; ²Boston University School of Medicine, Boston, MA; ³San Diego State University, San Diego, CA

Community Health Workers (CHWs) are a valuable workforce and widely used to facilitate the conduct of community and clinic-based health promotion and disease prevention research. CHWs are individuals who are trusted and well-respected knowledge bearers in the communities they serve. CHWs are highly valued as research facilitators because they are ethnically and culturally aligned with the populations they serve and are knowledgeable to the needs of their communities. However, CHWs are not typically academically trained researchers and, as such, may not recognize the importance of adhering to study protocols designed to enhance data fidelity or recognize subtle differences between health research studies and service delivery projects. This panel presents how CHWs are involved in two community-based health interventions and techniques the investigators are using to ensure protocol adherence and data quality. Presenter 1 will report on how she is designing and testing for usability an online weight management program for CHWs from Boston’s public housing developments to use when providing counseling to fellow residents. She predicts that data quality and CHW productivity will be enhanced by using information technologies to assist in training, delivery and monitoring of CHW interactions with research participants. Presenter 2 is conducting a physical activity intervention in partnership with Rawmana Fitness targeting local Native Hawaiian and Pacific Islander participants. The overarching goal of this study is to test a CHW-delivered intervention to increase physical activity. Another goal is to foster research capacity in this community to support future community-based research studies. To that end, this project will integrate the Building Research Integrity and Capacity (BRIC) training. Presenter 3 will describe the BRIC training, which was developed for and tested by community members (i.e., Community Health Workers/Promoters) who assist academic researchers to carry out community- and clinic-based health research

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Panel Discussion 28

10:15 AM–11:15 AM

DEVELOPING AN ACADEMIC-INDUSTRY PARTNERSHIP TO REDUCE HIV AND STI HEALTH DISPARITIES AMONG AFRICAN AMERICANS

Courtney Peasant, PhD¹, Jason Panda, Esq.²

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African Americans accounted for 46% of all new HIV infections in 2013, despite representing only 12% of the US population. African Americans also have the highest rates of chlamydia, gonorrhea, and syphilis compared to other racial/ethnic groups. Given this data, it is imperative that interventions focus on African Americans and specifically address the concerns that are unique to this community. Condoms are the most accessible and effective method of preventing HIV and sexually transmitted infections (STIs). However, only one condom brand specifically targets African Americans. Therefore, B Condoms, the only condom brand to specifically target African Americans in the U.S., and investigators from a large university in the northeast have partnered to develop a model that incorporates traditional public and private interests by connecting three key areas: (i) a culturally targeted condom social marketing brand, (ii) a mass media campaign and (iii) a data analytics platform customized to track, share and test data to improve HIV/STI prevention strategies of local health departments among African Americans. Partners from both B Condoms and the academy will discuss the process of developing an academic-industry partnership to seek out federal funding and non-traditional sources of funding such as investment capital. We will also discuss challenges related to the intellectual property rights of universities, confidentiality related to product development, and compensation structures. By the end of this panel discussion, participants will have a better understanding of how to form and maintain academic-industry partnerships and may be able to proactively anticipate and troubleshoot challenges.

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Saturday
April 02, 2016
10:15 AM–11:15 AM

D001

10:15 AM–11:15 AM

DEVELOPMENT AND EVALUATION OF THE BLADDER CANCER SUPPORTIVE CARE NEEDS SURVEY (BL-SCNS)

Nihal Mohamed, PhD

Mount Sinai, New York, NY

Purpose This study, utilizing both qualitative (study 1) and quantitative approach (study 2) examines muscle invasive bladder cancer (MIBC) patients’ needs and explores demographic, clinical, and psychosocial predictors of these needs. **Materials and Methods** Study 1: a convenience sample (N=40) of MIBC patients was recruited from academic and private practices. Focus groups and personal interviews were conducted by a psychologist and stratified by gender and age. Qualitative data analyses (immersion/crystallization) were performed to examine study 1 outcomes. Study 1 outcomes guided the adaptation of a reliable and validated need assessment questionnaire, the Supportive Care Needs Surveys (SCNS; 150 items) for MIBC patients. Study 2: The finalized SCNS was included in a web-based survey that also measures quality of life (EORTC) and emotional adjustment (HADS) among MIBC survivors (N = 159). Participants are recruited from a national Bladder Cancer Advocacy Network. Data analyses focuses on examining the psychometric properties of the modified SCNS, prevalence, type, and degree of importance of needs, and demographic, clinical and psychosocial predictors of needs. **Results** Study 1 results showed that needs of MIBC patients (N = 40, 30.8% women) are common and vary by age, gender, and urinary diversion. Study 2 results (N = 159 MIBC patients, 49% women) revealed that the internal reliability of the full SCNS scale is .99. Cronbach’s alpha coefficients are .97, .96, .95, .94, .89, and .92 for the psychological needs, the health system and information needs, the physical and daily living needs, the sexuality needs, the logistic needs, and the communication needs subscales, respectively. Descriptive and correlational analyses revealed moderate levels of needs across all domains and significant associations among these unmet needs, distress and quality of life significantly predicted psychological and sexuality needs reported ($p < .05$). **Conclusion** Our findings provide evidence for the validity and reliability of the bladder cancer SCNS scale and revealed strong associations among MIBC patients’ needs, quality of life, and emotional adjustment.

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D002

10:15 AM-11:15 AM

EFFECTS OF PHYSICAL HEALTH BURDEN ON STRESS VIA FEAR OF RECURRENCE AMONG CANCER SURVIVORS

Daniel L. Hall, M.S.¹, Inga T. Lennes, M.D., M.P.H., M.B.A.², William Pirl, M.D.³, Elyse R. Park, Ph.D.³¹Massachusetts General Hospital/Harvard Medical School, Brookline, MA; ²Massachusetts General Hospital, Boston, MA; ³Massachusetts General Hospital Cancer Center/Harvard Medical School, Boston, MA

Background: After treatment ends, many adult cancer survivors report having physical health symptoms and emotional distress. Uncertainty in Illness Theory posits that physical symptoms can trigger uncertainty among patients, leading to heightened subjective stress states. This study aimed to test whether survivors' physical symptoms (fatigue, limb and joint pain, and racing heart) are associated with self-reported stress, and if survivors' fear of recurrence partially mediates these associations. **Method:** Adult cancer survivors ($n=66$; median 2.2 years since diagnosis; 38% male) presenting at a hospital survivorship clinic between January 2011 and May 2012 completed measures assessing burden of physical health symptoms (Patient Health Questionnaire-15), perceived stress (Perceived Stress Scale-4, Cronbach's $\alpha=.82$), and fear of recurrence (Assessment of Survivor Concerns, Cronbach's $\alpha=.92$). Interrelatedness among variables was assessed using Pearson correlations. Indirect effects were modeled using the Preacher and Hayes (2008) method with 5000-iteration bootstrapping. **Results:** Survivors endorsed ("a little" to "a lot") experiencing fatigue (79%), limb and joint pain (64%), and racing heart (24%). Physical symptoms, perceived stress ($M=6.72$, $SD=3.66$, range 0-14), and fear of recurrence ($M=2.60$, $SD=0.95$, range 0-4) were all significantly positively correlated ($r's .21$ to $.42$). The indirect effects of physical symptoms on perceived stress via fear of recurrence were also significant. Specifically, fear of recurrence was an intermediary between physical symptoms and stress regarding: fatigue [$B=0.31$, $SE=0.18$ (95% CI: 0.03-0.79)], limb and joint pain [$B=0.35$, $SE=.23$ (95% CI: 0.03-0.98)], and racing heart [$B=0.68$, $SE=.39$ (95% CI: 0.09-1.68)]. **Discussion:** For cancer survivors, physical health concerns are prevalent and connected to both stress and fear of recurrence. Fear of recurrence explained a significant amount of covariance between fatigue, pain, and racing heart symptoms on the one hand and subjective stress on the other. Our findings support theoretical models highlighting fear of recurrence as a mechanism underlying stress in cancer survivors. Distress management interventions may benefit from addressing these fears triggered by an awareness of physical symptoms.

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D003

10:15 AM-11:15 AM

LONGITUDINAL STUDY OF UNMET NEEDS IN HEAD/NECK CANCER PATIENT-CAREGIVER DYADS

Jessica L. Burris, PhD¹, Kent Armeson, M.S.², Terry Day, MD³, Jane Zapka, ScD², Anthony Alberg, PhD, MPH², Katherine Sterba, PhD, MPH²¹University of Kentucky, Lexington, KY; ²Medical University of South Carolina, Charleston, SC; ³Medical University of Oklahoma, Charleston, SC

Head/neck cancer (HNC) can disrupt speaking and eating, a situation that may require help from a caregiver and/or reduce quality of life. Yet, there is a paucity of research on unmet needs (UN) in HNC. This study describes the nature of UN in HNC patients and caregivers, and their relationship with depressive symptoms. Recently diagnosed HNC patients (72% male; 89% White; mean age 60 years; 60% Stage IV) and their caregivers (23% male; 87% White; mean age 59 years; 62% patient's romantic partner) separately completed surveys 6 and 12 months after HNC diagnosis (baseline and follow-up, respectively); measures included a modified CaSUN instrument (UN) and the CES-D (depressive symptoms). In patients and caregivers ($n=53$ dyads), the most common UN involved personalized cancer information, shared decision-making, and care coordination. The number of UN ranged from 0 to 30/25 for patients/caregivers. Over time, the mean number of UN decreased by 17% in patients (7.6 to 6.3, $p=.13$) and 23% in caregivers (5.7 to 4.4, $p=.03$). In a linear regression model controlling for baseline UN and CES-D scores, patients' depressive symptoms at follow-up (mean, $SD=9.0$, 7.0) were positively correlated with change in UN from baseline to follow-up ($B=.70$, $p<.01$). However, the magnitude of the association was dependent upon the baseline number of UN ($B=-.03$, $p<.05$), such that depressive symptoms increased at a higher rate for those with lower UN at baseline. In a parallel regression model for caregivers' depressive symptoms at follow-up (mean, $SD=6.3$, 4.9), similar results were observed. In conclusion, HNC patients and caregivers have an array of UN in the year after diagnosis, the most common linked to cancer treatment. For patients, the experience of UN may persist over time, possibly due to new UN arising with each phase of the cancer care continuum. In this study, the burden and course of UN in the acute period after cancer diagnosis was a robust predictor of future depressive symptoms, raising the possibility of screening for UN as a valuable clinical tool.

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D004

10:15 AM-11:15 AM

STRESS PREDICTS TRAJECTORIES OF PSYCHOLOGICAL AND PHYSICAL FUNCTIONING IN RELAPSED/REFRACTORY CHRONIC LYMPHOCYTIC LEUKEMIA

Neha Goyal, Ph.D.¹, Travis Westbrook, M.A.², Barbara L. Andersen, PhD³¹VA Palo Alto, Cupertino, CA; ²The Ohio State University, Columbus, OH; ³Ohio State University, Columbus, OH

Chronic lymphocytic leukemia (CLL) is the most prevalent form of adult leukemia. Survival has improved with newer therapies, but all patients eventually relapse and have poor outcomes with additional therapies. Patients with relapsed/refractory (r/r) CLL are understudied and little is known about their psychological and physical functioning. According to the biobehavioral model of cancer (Andersen, et al., 1994), stress may be an individual difference variable that influences quality of life (QOL) as patients undergo treatment. However, the relationship between stress and outcomes in patients with r/r CLL is unknown. The current study examines the role of pre-treatment, cancer-specific stress (Impact of Events Scale) on trajectories of psychological and physical functioning in patients with r/r CLL undergoing treatment with ibrutinib, a targeted therapy that has demonstrated dramatic efficacy with little toxicity. Participants ($N = 151$; mean age = 64 years; 71% male) in a phase II drug trial of ibrutinib completed self-report measures of depressive symptoms, mood disturbance, mental health QOL, physical health QOL, fatigue interference, sleep disturbance, and pain at treatment initiation and after 1 month, 2 months, and 5 months. Mixed effects modeling with relevant control variables included was utilized for analyses. Individuals with higher cancer-specific stress at baseline started out with significantly higher levels of depressive symptoms, higher mood disturbance, poorer mental health QOL, higher sleep disturbance, and higher fatigue interference, but improved more rapidly on these outcomes than those with lower levels of stress. Those with lower cancer-specific stress at baseline remained at low, steady levels of these same outcomes. Stress was not related to the baseline levels or trajectories of physical QOL or pain. At 5 months, those with higher cancer-specific stress at baseline continued to have higher depressive symptoms, higher mood disturbance, and poorer mental health QOL, but had similar levels of sleep disturbance, fatigue interference, pain, and physical health QOL as those with lower levels of stress at baseline. These results indicate that individuals with higher cancer-specific stress at treatment initiation may benefit from targeted psychosocial interventions. Future studies should examine other individual difference variables that may predict poorer outcomes for patients with CLL.

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CITATION AWARD WINNER
D006 10:15

AM-11:15 AM

A RANDOMIZED TRIAL OF VIDEOCONFERENCE CBT FOR BREAST CANCER SURVIVORS WITH SELF-REPORTED COGNITIVE DYSFUNCTION

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Background. Chemotherapy-related cognitive dysfunction (CRCDD) occurs for a large portion of cancer survivors but there is no established treatment. We report results of a small randomized controlled trial of videoconference-delivered Memory and Attention Adaptation Training (MAAT) vs. videoconference-delivered supportive therapy (ST). **Methods.** Forty-seven breast cancer survivors reporting CRCDD were randomized to MAAT or ST and assessed at baseline, post-treatment and 2-month follow up on self-report measures of cognitive symptoms, quality of life and a brief telephone-based neuropsychological battery. **Results.** MAAT participants made gains in self-reported cognitive impairments ($p = .02$) and neuropsychological processing speed ($p = .03$) compared with ST controls. Survivors rated video-delivered MAAT with high satisfaction. **Conclusions.** MAAT may be an efficacious psychological treatment of CRCDD that is feasibly delivered with technology that improves survivor care access.

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D007

10:15 AM-11:15 AM

“WE UNDERSTAND AND SUPPORT YOU” —A QUALITATIVE STUDY ON EMPATHIC EXCHANGES IN ONLINE SUPPORT GROUPS

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Online support groups (OSGs), as one special form of computer-mediated communication, have emerged as a platform for patients to seek health information and gain social support. By sharing similar experiences with each other, patients would reduce the feelings of isolation and loneliness. Drawing on the framework of social cognitive theory and the concept of empathic exchange, the study examines what post themes emerge in a breast cancer online support group and the empathic exchange patterns across different theme dimensions. The results of this study identified 18 theme categories and indicated that information seeking and building social network were the most dominant theme in breast cancer online community. In addition, the empathic exchange of cognitive understanding, affective responses and helping behavior were manifest in the posts, through which, thread starters expressed less pressure and more confidence toward the disease. Findings had implications regarding empowering patients through perception of social support and potentially engaging clinicians in online support groups to help improve life quality of breast cancer patients.

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D008

10:15 AM-11:15 AM

ADHERENCE TO ENDOCRINE THERAPY IN WOMEN WITH BREAST CANCER: PATTERNS OF CHANGE FOR THE FIRST YEAR OF THERAPY

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Purpose: Adherence rates to endocrine therapy have been reported as low as 25% in women with breast cancer, and nonadherence can compromise therapeutic efficacy, resulting in reduced disease-free and overall survival and greater health care utilization. While declines in adherence to endocrine therapy have been reported, it is not clear whether there may be distinct patterns of adherence over time. **Methods:** Using a prospective design, women diagnosed with hormone-receptor positive stage I, II or IIIa breast cancer and prescribed endocrine therapy were monitored for their adherence over the first 12 months of therapy. Adherence was measured using the AARDEX microelectronic monitoring system (MEMS™) cap and summarized monthly in terms of the percentage of days with correct intake. Group-based trajectory modeling (GBTM) was applied to longitudinally assessed adherence to endocrine therapy to identify groups of women having similar adherence trajectories. **Results:** Women (N=91) were on average 56.7 years of age, Caucasian (96.7%), married/partnered (74.7%) and well educated (Mean=14.9 years). Most women (59.3%) had stage I breast cancer and 23% received chemotherapy prior to endocrine therapy. Through GBTM, three trajectory groups were revealed: excellent adherence (60.8%), with a constant trajectory near 100%; good initial adherence, with linear decline (34.6%; b[intercept]=94.3, p=.001; b[linear]=-0.63, p=.010); good initial adherence (4.7%; b[intercept]=92.4, p=.001), with precipitous nonlinear decline (b[linear]=-30.65, p=.002; b[quadratic]=10.08, p=.010; b[cubic]=-1.55, p=.006; b[quartic]=0.08, p=.003). **Conclusions:** While most women maintained excellent adherence to their prescribed endocrine therapy during the first year, a significant proportion of women demonstrated declines in adherence within the initial months of therapy. Consistent with Christensen's Interactionalist Framework of Adherence, future efforts should focus on the identification of pre-treatment patient (e.g., sociodemographics, cognitive function, mood) and illness/treatment (e.g., chemotherapy, disease stage, symptoms) characteristics as predictors of risk for future nonadherence to endocrine therapies to better target behavioral interventions to enhance adherence.

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D009

10:15 AM-11:15 AM

ASSESSING SELF-EFFICACY FOR COPING WITH CANCER: DIFFERENTIAL ITEM FUNCTIONING FOR VERSION 3 OF THE CANCER BEHAVIOR INVENTORY

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Background: The CBI (Merluzzi et al., 1997- V1; 2001- V2) is a widely-used measure of self-efficacy for coping with cancer. The newest version (V3) included reworded items to reduce ambiguity and a spiritual coping efficacy scale. Exploratory Factor Analysis and two Confirmatory Factor Analyses confirmed 7 factors: Maintaining Activity, Seeking Medical Information, Controlling Stress and Distress; Managing Side Effects; Accepting Cancer/ Maintaining a Positive Attitude; Seeking Social Support; and Using Spiritual Coping. The next step in the development of Version 3 is Differential Item Functioning (DIF) to test if items show bias as a function of sex, race/ethnicity, age, income, and education (grouping variables). **Method:** DIF model testing was compiled over 4 samples of mixed diagnoses cancer patients (N=1175). The detection of DIF with SEM models involved finding the significant direct effect of the grouping variable on the CBI responses. An iterative procedure of SEM modeling was used, starting with the SEM model in which the grouping variable was the covariate for each of 7 latent factors. Model modification indices were used to include the most significant direct path from the grouping variable to CBI items. The procedure ended when no more significant directed paths were detected, and the SEM model with all significant direct paths was tested for model fit and parameter estimates. This procedure is a very stringent test of DIF. **Results:** DIF emerged on 10 variables ($\chi^2>3.85$, $p < .05$). Critical to this analysis is how significant DIF items affect scoring and interpretation. Maximum possible bias was computed to be 1.872 points. That is, patients who are female, over 60 years old, with income less than \$40K, a HS degree, and African American (AA), would score 1.872 points higher than patients who are male, less than 60, with income greater than \$40K, without a HS degree, and Caucasian (CA). Given a SD of 31.55 for the total CBI score, the maximum bias is 0.059 of one SD. **Conclusions/Implications:** DIF analysis is important for the integrity of the interpretation of the CBI-V3. In spite of the statistical significance of some grouping variable paths on 10 items, the absolute magnitude of the bias is very small and would occur in a small portion of the sample. Thus, on the average, bias would be far less than 1.872 points and not a relevant concern for the research or clinical use of the CBI-V3.

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D010

10:15 AM-11:15 AM

ATTITUDES AND PREDICTORS OF SUNLESS TANNING IN YOUNG ADULTS

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Background: Given the continued popularity of a tanned appearance, sunless tanning products may play a role in skin cancer prevention as a substitute for ultraviolet (UV) radiation tanning. Few studies have comprehensively assessed attitudes toward and predictors of sunless tanning. **Methods:** Participants were non-Hispanic whites under age 40 enrolled as controls in a case-control study of basal cell carcinoma (n=385). Sociodemographic, phenotypic, and lifestyle characteristics were collected during in-person interviews and participants completed a self-administered mailed questionnaire on attitudes toward sunless tanning. Basic descriptive statistics were used to describe attitudes in all participants and among females who had used sunless tanning products. We identified predictors of sunless tanning among females (n=272) with multivariate logistic regression. **Results:** Just over half (52%) of participants (median age=38; 71% female) reported using sunless tanning products at least once; use was higher among females (67%) than males (18%). Most participants agreed that sunless tanning products were safe for use and inadequate substitutes for sunscreen. Among females who had used sunless tanning (n=182), attitudes regarding convenience and appearance of sunless tans were generally favorable. Predictors of sunless tanning among females, included indoor tanning (>75 sessions vs no indoor tanning odds ratio (OR)=3.30, 95% confidence interval (CI)=1.52-7.16), a tendency to burn with first summer sun exposure (OR=1.89, 95% CI=1.03-3.47), higher public body consciousness (OR=1.09, 95% CI=1.02-1.18), and believing sunless tanning was useful for tanning when weather was not favorable for sunbathing (OR=5.08, 95% CI=2.11-12.22). **Conclusion:** Our results suggest sunless tanning may be an acceptable method of achieving a tanned appearance for some young adults and may prove useful in reducing UV exposure, particularly among females who frequently tan indoors.

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D011

10:15 AM-11:15 AM

BARRIERS TO AND FACILITATORS OF ENDOCRINE THERAPY ADHERENCE AMONG WOMEN WITH BREAST CANCER

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The treatment of chronic illness, and the prevention of recurrence in the case of breast cancer, often involves long-term adherence to prescription medications. Despite the survival benefit of medication adherence, non-adherence rates remain high among women with breast cancer taking endocrine therapies. In this study, we examined barriers to and facilitators of endocrine therapy adherence among women with breast cancer ($N = 1371$). Participants who were currently taking either tamoxifen or aromatase inhibitors were recruited from the Dr. Susan Love Research Foundation's Love/Avon Army of Women Registry. Participants completed an online survey that included open-ended and close-ended questions about women's thoughts, feelings and behaviors relevant to endocrine therapy. Two weeks after completion of the first survey, women were sent an invitation to complete a second online survey to assess current endocrine therapy adherence. Thirty-six percent of participants reported that there are factors that make taking endocrine therapy difficult and 31% of participants reported using strategies to increase motivation to continue taking endocrine medication. In response to close-ended questions regarding strategies used to increase motivation to adhere, 46.6% of participants reported using self-talk, 59.7% reported recalling something said by a doctor and 24.4% reported recalling something said by another person who was not a doctor. Reporting any barriers to medication adherence was significantly associated with non-adherence ($r = 0.18, p < 0.001$). However, reporting the use of any strategies to increase motivation was not significantly associated with non-adherence. Self-reported endocrine therapy adherence (adapted Morisky Adherence Scale) was regressed on hypothesized predictors. The final regression model accounted for 5.9% of the variance in non-adherence. Barriers and facilitators accounted for 2.7% of the variance and relevant demographic/medical factors accounted for 3.2%. Taken collectively, these results suggest that many women face factors that make taking endocrine therapy difficult and that those factors are associated with non-adherence.

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D012

10:15 AM-11:15 AM

BELIEFS ABOUT THE UTILITY FOR REPRODUCTIVE DECISION MAKING OF GENOMIC TESTING AMONG ADVANCED CANCER PATIENTS

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Background: Tumor genomic profiling (TGP) is a cutting-edge technology used with advanced cancer patients to guide treatment and trial eligibility. TGP can reveal information about a patient's hereditary disease risks, including non-actionable incidental findings (NAIF) that indicate risk for diseases without effective treatments or one's status as a healthy carrier of a disease-causing mutation that could be passed to children and grandchildren. For those without disease, this information could have substantial reproductive utility; yet, little is known about attitudes about the value of NAIF. **Method:** We interviewed 40 advanced cancer patients who underwent TGP. Patients were asked hypothetically how they would respond to the option to learn their NAIF but no genetic information was returned. Transcribed interviews were evaluated using a thematic content analysis approach consisting of coding and interpretation of the data by team consensus. **Results:** Sixteen patients (40% of the entire sample) discussed their opinions about the reproductive utility of learning NAIF (56% female, 81% white, age 30-82). Of these 16 patients, 14 (88%) expressed interest in learning their NAIF with 9 (56%) speaking theoretically (e.g. "if I was of childbearing age") and 5 (31%) wanting to learn their NAIF in their current disease state. Three participants (19%) intended to share these results with family members for their reproductive benefit. Further, patients believed that learning NAIF was their responsibility in order to prevent having a child with a disability/genetic disorder or to fight disease in society more broadly (56%). Few imagined that they would not have had a child as a result of learning their NAIF (19%). Two (13%) reported concerns about the reproductive implications of learning their NAIF, and one patient expressed disinterest in learning NAIF due to the perceived emotional distress from learning this information. **Conclusions:** Advanced cancer patients expect that learning their NAIF could have important reproductive utility for themselves and their family. Future studies should examine the implications of learning this information for patients and its effects on their families.

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D013

10:15 AM-11:15 AM

CANCER DISPARITIES MESSAGES DO NOT INCREASE CANCER-SCREENING INTENTIONS AMONG AFRICAN-AMERICANS

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Cancer messages tailored for African-Americans often include information on Black-White cancer disparities to raise Blacks' perceived cancer risk and motivate cancer screening. Two prior studies found that information on Blacks' colorectal cancer (CRC) disparities had no effect on Blacks' perceived CRC risk, elicited negative emotions, and had no effect – or decreased – their CRC screening intentions, whereas information on Blacks' CRC Progress increased Black CRC screening intentions. This study examined the impact of CRC Disparities vs. Progress messages on Blacks and Whites for the first time. The 1106 adult participants were randomly-sampled from census tracts in a southern county; half received a CRC Disparities and half received a CRC Progress message. The messages were included in a general health survey. Participants were instructed to read the message and answer 6 yes/no questions (used in prior studies) about it. The messages were: "According to a report from the National Cancer Institute, the death rate from colon cancer for Blacks has dropped over the past 20 years, and continues to decrease. Blacks today are much less likely to die from colon cancer than Blacks 20 years ago" (CRC Progress); "According to a report from the National Cancer Institute, the death rate from colon cancer for Blacks is much higher than the rate for Whites, and has been higher for the past 20 years. Blacks are much more likely than Whites to die from colon cancer" (CRC Disparities). Results revealed that Blacks who read the Disparities message felt significantly more discouraged by it than those who read the Progress message, with no differences in rejecting the message or in their CRC screening intentions by message-type. Whites who read the Progress message accepted it as true (those reading the Disparities message rejected it as false) and had significantly higher CRC screening intentions than those who read the Disparities message. Together with the prior studies, these findings suggest that cancer disparities messages do not increase Blacks' cancer screening intentions.

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D014

10:15 AM-11:15 AM

CANCER SURVIVORS REASONS FOR USING AN ONLINE COMMUNITY AND THE ROLE OF BONDING AND IDENTITY

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Intro: The main reasons people commit to social groups generally are their connections to specific group members (Bonding) and to the group as a whole and what it represents (Social Identity). The ACS Cancer Survivors Network (CSN) is an online community where survivors and caregivers exchange information and emotional support. This analysis examines the extent that Bonding and Social Identity explain participants' cancer-specific reasons for using CSN. **Method:** 2393 registered CSN users completed a web survey containing measures of Bonding, Social Identity (Identity) and reasons for using online health communities—Getting Information (GetInfo), Getting Emotional Support (GetEmoSup), Giving Social Support (GiveSup), and Social Comparison (SocialComp). **Result:** 49% of respondents were survivors, 10% caregivers, 40% both; most common cancers—breast 26%, female/reproductive 11% and colorectal 9%; median age 57; 72% female; 88% white; 16% ≤ highschool. Respondents reported using CSN more to GetInfo ($\mu=3.8$ $sd=1.1$) than to GetEmoSup ($\mu=3.3$ $sd=1.4$), GiveSup ($\mu=3.3$ $sd=1.4$), and SocialComp ($\mu=3.4$ $sd=1.2$). Respondents' attachment to CSN was based more on Identity ($\mu=3.4$ $sd=1.0$) than Bonding ($\mu=2.5$ $sd=1.0$). Regressions controlling for race, education, age, recent login, and cancer diagnosis show that only Identity was positively associated with using CSN to GetInfo ($\beta=.41$ $\beta_B=.03$ pooled $se=.03$ $R^2=.16$), while both Bonding and Identity predicted GetEmoSup ($\beta=.48$ $\beta_B=.35$ $se=.03$ $R^2=.33$), GiveSup ($\beta=.44$ $\beta_B=.39$ $se=.03$ $R^2=.31$) and SocialComp ($\beta=.48$ $\beta_B=.22$ $se=.03$ $R^2=.27$). **Discussion:** Respondents' Identity with CSN as a whole, presumably driven by their social identities as cancer survivors, predicted all reasons for using CSN. Bonding to other individual CSN members predicted social uses—GetEmoSup, GiveSup and SocialComp. This pattern suggests that successful online health communities need members to identify with the group as whole, and Bonding is important to promote social uses of online communities, especially giving support to other members.

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D015

10:15 AM-11:15 AM

CANCER-RELATED DISTRESS AMONG DIFFERENT RACIAL-ETHNIC GROUPS FROM A COMMUNITY-BASED DISTRESS SCREENING PROGRAM

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Background. Cancer patients are at risk for elevated distress. Thus distress screening and referral is now a recommended component of patient care. As implementation increases, it is essential to monitor if concerns and resource needs vary among diverse racial-ethnic groups to ensure programs are adequately resourced to fit these specific needs. **Methods.** English speaking cancer survivors (n=905) from a nationwide cancer support organization participated in a distress screening, referral and follow up program. Participants rated the level of concern (0 to 4) about 15 items, including a 4 item depression subscale, and identified the type of help they want. Adjusting for age and income, we examined via regression analysis differences among racial-ethnic groups in level of distress; type of concerns (rated ≥ 2); and items selected to talk with the health care team. We limited the analysis to the largest racial-ethnic groups in the sample: non-Hispanic white (n=629); black or African American (n=79); and Latino or Hispanic (n=85). **Results.** The sample was 79% female, 40% employed, 57% partnered or married, and median age 57 y. Most (60%) were within 1 y of diagnosis, and 42% were breast cancer survivors. Latinos had significantly higher levels of distress than whites and higher but not significantly different levels than blacks. Similarly, Latinos had a significantly higher risk for depression than whites (OR=1.71, 95%CI=1.04, 2.81) and blacks (OR=2.17, 95%CI=1.13, 4.16). Sleep problems were a greater concern among Latinos (59%) and blacks (55%) than among whites (39%). Yet, blacks were significantly less likely than Latinos and whites to request help for sleep problems (19%, 46%, 28%; respectively). A similar pattern was observed for financial worries and pain, with greater concern among Latinos and blacks but lower likelihood of requesting help among black patients. Latinos were significantly more concerned than whites and blacks about financial worries, feeling sad or depressed, feeling nervous or afraid, making a treatment decision, finding meaning, and feeling lonely or isolated. **Conclusion.** Future research should explore implementation among diverse groups of patients and investigate factors that impact distress. These findings contribute toward recognizing that certain populations might be more receptive to certain forms of help.

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D016

10:15 AM-11:15 AM

CBT PLUS HYPNOSIS INTERVENTION TO IMPROVE CANCER-RELATED FATIGUE IN RADIOTHERAPY PATIENTS: A CASE SERIES

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Cancer related fatigue (CRF) is a common and debilitating side effect in cancer patients receiving radiotherapy, often significantly interfering with quality of life and possibly limiting ability to complete treatments. Multiple studies have evaluated interventions to improve CRF although most have been ineffective. A recent study examining CBT plus hypnosis (CBTH) in breast cancer patients undergoing radiotherapy indicated that CBTH reduced CRF in this population and the benefit persisted at 6 months post-treatment. Thus CBTH may be a safe, non-invasive method for improving CRF. The aim of the present study was to build upon previous work while broadening the sample to all cancer types, locally advanced, and metastatic cancer. The original sample consisted of 13 participants, who were randomized to the intervention or control group, which received no intervention. Of those enrolled, 2 females from each group (50% white; mean age=46) were retained and completed assessments. Due to the small sample size, no statistical analyses were performed. The 4 subjects were assessed at baseline with a demo form, FACIT-F, VASs, HADS, GABSR and BCOPE. The FACIT and VASs measures were repeated 2x per week for 3-5 weeks of Radiotherapy. CBT was implemented 2x weekly and clinical hypnosis with implemented 1x weekly. Participants were provided weekly CBT worksheets to complete between sessions. A final assessment using measures noted above were completed by subjects post-radiotherapy. Participants reported appreciation for the CBTH intervention and satisfaction with learning mindfulness techniques. Baseline assessment confirms that fatigue is a significant and distressing problem for cancer patients undergoing radiotherapy (FACIT-F -36.3). Due to recruitment and implementation difficulties, future researchers should dedicate full-time staff to conduct this study, identify participants and locate them on treatment days, and use briefer assessments to decrease subject attrition. Finally, a team approach, including physicians and nurses, in the recruitment process may help increase interest in the study due to the close and meaningful relationship patients have with their physicians. The challenges experienced with this study, further support the importance of a multidisciplinary team approach to interventions in health care settings.

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D017

10:15 AM-11:15 AM

CHEMOTHERAPY DELAYS OR DOSE REDUCTIONS IN AFRICAN AMERICAN WOMEN WITH NEWLY DIAGNOSED BREAST CANCER

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Background and Purpose: Chemotherapy delays and dose reductions carry the risk of suboptimal clinical outcomes in breast cancer. African American (AA) women are more likely to receive reduced intensity chemotherapy compared to white women. The purpose of this study was to examine chemotherapy delay or dose reduction in AA women with newly diagnosed breast cancer and explore factors associated with delay or reduction in chemotherapy. **Methods:** This secondary analysis used baseline data from 142 AA women who participated in a randomized controlled trial testing the efficacy of a psycho-education intervention on chemotherapy adherence. Patients' demographic variables, symptom scores, quality of life, social support, self-efficacy and health beliefs were collected at the initial visit prior to chemotherapy administration. Any chemotherapy delay beyond 7 days, early therapy cessation, or dose reduction in the prescribed time was obtained from chart review. Descriptive statistics and logistic regression were used for data analysis. **Results:** About half of AA women (n=70, 49%) had chemotherapy delays or dose reductions. Delays and dose reductions were associated with symptom distress (OR=1.17, p=.002), lower social support (OR=0.92, p=.03), less self-efficacy (OR=0.90, p=.02), better quality of life (OR=1.06, p=.007) and paying for basic needs as "somewhat or extremely difficult". Having any chemotherapy delays or reductions was not associated with beliefs in chemotherapy, interpersonal processes of care, distrust of health care, or number of baseline symptoms. **Conclusion:** Our findings suggest AA women with economic distress, symptom distress, less social support, less self-efficacy and interestingly higher quality of life at baseline may be at higher risk for chemotherapy delays or dose reductions. Early tailored interventions should be considered in these subgroups to improve treatment outcome.

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D018

10:15 AM-11:15 AM

CHINESE BREAST CANCERS' QUALITY OF LIFE DIFFER BY PHYSICAL ACTIVITY LEVELS

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Background: Several studies indicate the vital role of physical activity (PA) in breast cancer survivors' quality of life (QoL). However, most of these studies focus on homogenous groups and few studies have included ethnic minorities such as Chinese, the fastest growing immigrant group in the U.S. The present study investigated the association between PA and QoL in high-acculturated and low-acculturated Chinese BCS while comparing these results to non-Hispanic White BCS. **Methods:** Four-hundred and two (211 Chinese and 191 NHW) female BCS diagnosed at stage 0-III were recruited from the 2008-2011 California cancer registry. A cross-sectional survey was administered from 2011 to 2013 to assess PA, acculturation level, and QoL. To assess self-reported PA, the 7-item International Physical Activity Questionnaire (IPAQ-SF) was administered, and classified into inactive, minimally active, and health enhancing physically active (HEPA) groups in accordance to METs*min per week. The Patient Reported Outcome Measurement Information System (PROMIS) was used to assess QoL outcomes. Using general linear modeling we examined the associations between PA and QoL. **Results:** Seventy-seven percent of NHW were physically active, compared to 66% for high-acculturated and 54% for low-acculturated Chinese. Levels of PA were positively related to PF among low-acculturated Chinese and NHW survivors (trend p values = 0.04 and 0.0008, respectively), a significance not found in high-acculturated Chinese. Survivors in the HEPA group were less likely to feel depressed and anxious compared to survivors who were minimally active or inactive. For the low-acculturated Chinese group, a general trend was observed between increased PA and decreased depression, and decreased anxiety (trend p=0.007, and 0.001, respectively). **Conclusion:** Our results suggest that the HEPA group, regardless of race/ethnicity and acculturation level, had the best QoL outcomes. The minimally active and inactive groups are not different in QoL for all groups. Though our study could not draw a causal conclusion between higher PA level and better QoL, results confirm higher PA levels are associated with positive QoL outcomes. Approaches to increased low-acculturated Chinese survivor's PA level are beneficial to promote their QoL.

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D019

10:15 AM-11:15 AM

COGNITIVE IMPROVEMENT IN BREAST CANCER PATIENTS SUFFERING FROM "CHEMOBRAIN" USING A NEUROFEEDBACK INTERVENTION

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Cognitive impairment including declines in attention, learning, memory, and processing speed, is reported by as many as 50% to 70% of patients experiencing cancer chemotherapy (Dietrich et al., 2008; Vardy & Tannock, 2007). This impairment does not appear to remediate over time (Koppelmans, et al., 2012) and has no effective treatment. Neuroimaging has revealed organic damage (Saykin, et al., 2003; Stemmer, et al., 1994).

Neurofeedback has been shown to be helpful in improving cognitive performance (e.g., Monastera, et al., 2002; Nelson & Esty, 2012). The present study was performed to determine if a training regimen of neurofeedback can remediate the cognitive deficits as well as other documented psychological impairment following chemotherapy.

Nine breast cancer subjects, with significant cognitive impairment as demonstrated by neurocognitive testing, and at least one year post chemotherapy, were given a neurofeedback training intervention. The intervention consisted of 18, 30 minute sessions of neurofeedback at two training sites, C3 and C4 simultaneously and occurring three times per week. Pre and post training QEEGs were performed to determine initial neurophysiological functioning as well as improvement following training.

Three key elements were assessed in this study regarding the cognitive functioning of the study subjects. These assessments were performed pre and immediately-post the neurofeedback intervention. These areas included: memory (short-term), attention and concentration. All three domains were positively affected by the intervention. Effect sizes in the .30 to .35 range were shown in all three of these domains, reflecting substantial improvements after the neurofeedback intervention.

The Brief Symptom Inventory was administered to all the study participants pre and immediately post the neurofeedback intervention. Results showed that 6 of the 9 subjects showed robust psychological improvement of symptomatology after the intervention.

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D020

10:15 AM-11:15 AM

CORRELATES OF SPIRITUALITY IN BREAST CANCER SURVIVORS

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Background Among cancer survivors, spirituality may influence how survivors cope with their disease, patient-provider interactions, or treatment attitudes. Limited empirical data has assessed these factors. This study assessed: (1) the relationships between demographic, socio-cultural, and process of care factors and spirituality and (2) examined whether spirituality was correlated with survivors' perspectives about cancer treatment. **Methods** Black and White breast cancer survivors (N= 328; 56% Black) were recruited via hospitals and outreach. Interviews captured spiritual beliefs and practices (i.e. "my spiritual beliefs are the foundation of my whole approach to life"), socio-cultural factors (e.g., collectivism), and process of care factors (e.g., patient-provider communication). Bivariate relationships between spirituality and other factors were assessed; variables with p. **Results** Spirituality scores ranged from 9 to 36 (m=28.1; SD: 6.7). In bivariate analysis, Blacks had higher spirituality scores (m=31, SD=4.8) than Whites (m=24; SD=7). Spirituality was not associated with treatment attitudes (p>.05). Spirituality was positively correlated with collectivism (r=.141, p=.000), collectivist worldview (r=.375; p=.000), medical mistrust (r=.144; p=.009), and self-efficacy in seeking information (r=.124, p=.026). Spirituality remained significantly higher in Blacks vs. their Whites counterparts after controlling for other covariates (=-6.38, p=.000). Spirituality was higher in women with higher collectivism (=0.45, p=.0004) and collectivist worldview (=0.53, p=.0069) in multivariate models. **Conclusion** Spirituality is important to survivors. Unfortunately, spiritual care (e.g. Chaplains) is not often integrated within the outpatient setting which may be a missed opportunity to support survivors. Race was a robust predictor of spirituality; this suggests opportunities to provide support to Black women. Contrary to qualitative findings, spirituality was not associated with negative treatment attitudes.

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D021

10:15 AM-11:15 AM

DECISIONAL PREFERENCES FOR CANCER SCREENING AMONG OLDER ADULTS IN THE UK

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Background: Some people prefer help from others when deciding whether to have cancer screening; others prefer to make the decision alone. In many European countries, cancer screening is organised centrally via national programmes, which send invitations directly to those who are eligible. This means that in contrast to the US approach, doctors are not directly involved in people's screening participation decisions. We explored decisional preferences for cancer screening (alone vs with help from others), and associations with sociodemographic characteristics and anxiety about cancer. **Methods:** A population-representative sample of adults in England (n=1,464) aged 50-70 years completed a survey interview as part of the Attitudes, Behaviour, and Cancer UK Survey (ABACUS). We assessed decisional preference for cancer screening (alone/with help from a doctor/with help from someone close to me), age, gender, ethnicity, socioeconomic, marital, and smoking status, and anxiety about cancer. **Results:** 45% preferred to make decisions about cancer screening alone, 43% preferred help from a doctor, and 12% from someone close to them. In adjusted analyses comparing those who preferred help from a doctor with those who preferred to decide alone, women (45% vs 53%; OR=0.73, p < .05) and those who were unmarried (44% vs 52%; OR=0.74, p < .05) were less likely to want help from a doctor. Those who were slightly anxious about cancer (53%) were more likely to want help than those who were not anxious about cancer (45%; OR=1.43, p < .01). There were no associations with age, ethnicity, socioeconomic or smoking status, or feeling very anxious about cancer. **Conclusions:** Men, those from lower socioeconomic backgrounds, and those who are slightly anxious about cancer are more likely to want help when making decisions about participation in cancer screening. A lack of readily available support and resources for these individuals may affect uptake of screening.

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D022

10:15 AM-11:15 AM

DEPRESSION, SYMPTOM DISTRESS, COPING, AND FEAR OF RECURRENCE IN AFRICAN-AMERICAN BREAST CANCER SURVIVORS

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Background: Compared to Caucasians, African-American breast cancer survivors (AABCS) have higher rates of cancer recurrence. Fear of recurrence (FOR) is the constant worry of cancer returning. Data show that high depression and high symptom distress are associated with greater FOR in majority samples. These relationships require further quantitative support in AABCS. Elucidating the mechanisms through which symptom distress and depression are related to FOR are equally important. The purpose of this study was to examine how depression and symptom distress are related to FOR using a five dimensional measure of FOR, and to explore behavioral disengagement as a mechanism through which symptom distress and depression affect FOR in AABCS. **Methods:** Participant recruitment was conducted via mailings sent to Howard University Cancer Center registry members and flyers posted throughout the Howard University community. AABCS without recurrence completed a background questionnaire, Concerns About Recurrence Scale (measuring FOR), Brief COPE (measuring behavioral disengagement), Symptom Distress Scale (measuring symptom distress), and Beck Depression Inventory-II (measuring depression). **Analysis:** 51 AABCS were included (age, $M=64$, $SD=12.3$). Partial correlations were used to determine independent relationships of depression, symptom distress, and behavioral disengagement on FOR. Mediation analyses were conducted to determine if behavioral disengagement mediated the relationships between depression and FOR and symptom distress and FOR. **Results:** Results show that symptom distress, depression, and behavioral disengagement were significantly associated with certain subscales of FOR. Behavioral disengagement did not serve as a mediator in the relationships between symptom distress and FOR or depression and FOR. **Conclusion:** This study provides a description of how depression and symptom distress are associated with greater FOR in AABCS.

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D023

10:15 AM-11:15 AM

DESIRE FOR SUPPORT SERVICES AND PSYCHOSOCIAL NEEDS OF BLACK, WHITE AND HISPANIC CANCER PATIENTS

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Cancer patients vary widely in terms of their psychosocial needs and desire for supportive care services. We surveyed 548 outpatients actively undergoing cancer treatment with a comprehensive wellness assessment that included the Patient Health Questionnaire (PHQ9) to screen for depressed mood. Respondents undergoing radiation therapy and newly diagnosed patients at a medical oncology practice were asked to complete a survey in English or Spanish. Most common cancer diagnoses were: breast (37.7%), prostate (13.6%), lung (10.5%), head/neck (6.5%) and colorectal (5.3%). The sample was 80% white (non-Hispanic), 8% black (non-Hispanic), 8% Hispanic/Latino. These subgroups were compared using Fischer exact test and chi-square. Patients who were black or Hispanic were more likely to be younger ($p=.001$), more likely to be unmarried ($p=.001$) and less likely to be college educated ($p.01$). Patients who were Hispanic were more likely to request social work services and chaplain services compared to Non-Hispanics ($p>.001$). Hispanics were less likely to rate that it was “easy” to obtain or find the services that they needed through the cancer center compared to non-Hispanics ($p.01$). Patients who were black were more likely to request nutritional counseling, social work services and nurse navigation compared to those who were white ($p < .05$). Patients who were black and Hispanic were more likely to report having transportation difficulties in getting to treatment compared to white patients ($< .05$). Twenty percent of black patients, 31% of Hispanic patients and 13% of white patients screened positive for depressive symptoms using the PHQ9 threshold of ≥ 10 . Cumulatively these data suggest the need to study the experiences of black and Hispanic/Latino cancer patients. These preliminary data suggest that the need and desire for instrumental support, spiritual support and psychological support is higher in these subgroups. Early assessment and referral for supportive care services could help to reduce the burden of cancer among racial and ethnic minorities.

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D024

10:15 AM-11:15 AM

DEVELOPMENT AND EVALUATION OF A DISTRESS SCREENING PROGRAM FOR VETERANS WITH CANCER

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In an effort to address the high prevalence of psychological distress among individuals with cancer, the Commission on Cancer has mandated adoption of routine distress screening as of 2015. Implementation of distress screening programs that meet accreditation requirements can be challenging, especially for clinics with limited resources. This presentation will describe the processes and outcomes associated with a distress screening program implemented at a Veterans Affairs Medical Center oncology clinic. Guided by elements of the Quality Implementation Framework, a multi-phase clinical demonstration project was undertaken. An implementation team was assembled to first conduct an assessment of clinic needs and system resources. This needs assessment guided the development of several specific aims for program implementation: 1) select a brief, psychometrically sound screening instrument with high utility (i.e., the NCCN Distress Thermometer), 2) engage key stakeholders by meeting regularly with clinic providers and staff to identify screening procedures that would not interfere with routine clinic operations, 3) create a logic model and specify relevant metrics to indicate program inputs, activities, outputs, and outcomes, 4) enhance adoption by providing one-to-one training and implementation support materials for oncology providers (e.g., build and disseminate an electronic progress note template, workflow maps, and guides for addressing positive screens), and 5) pilot the program prior to phase-in. Results from outcomes assessment at 6- and 18-months were stable, with 84% of patients screened, typically during their first consultation with oncology. Multiple sources of distress were commonly reported on the Distress Thermometer, with the top three concerns identified as pain (67%), worry (66%), and fatigue (62%). The single most frequent action taken by oncology providers to address patients' distress was to offer additional patient-centered counseling regarding the nature of their cancer and its treatment options (48%). Evaluation findings will be discussed in relation to program strengths and areas for improvement, including expanding program reach to reduce missed opportunities, increasing the frequency of screening beyond the initial consultation, and improving patient engagement in behavioral health referrals.

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D025

10:15 AM-11:15 AM

DEVELOPMENT OF A CLINICAL TRIAL INFORMED DECISION MAKING MHEALTH INTERVENTION FOR AFRICAN AMERICAN CANCER PATIENTS

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Background: African Americans participate in clinical research at lower rates than Whites, despite carrying a disproportionately high cancer burden. Based on a formative evaluation and perceptual mapping (multidimensional scaling) and vector modeling to compare barriers and facilitators to participation in African American cancer patients who had and had not participated in two Philadelphia hospital and the application of best practices in intervention development, we created an mHealth tool to assist patients in an informed decision making process. **Methods:** Using the results from the formative interviews and surveys with African American patients who had and had not participated in a clinical trial, we designed an interactive mHealth tool to help patients more fully understand clinical trials, address common concerns, and support preparation for discussions with health care providers. The tool is designed to be used either with tablets, smartphones or computers and engage patients through animations, real world patient perspectives, and tools to develop tailored questions for the provider/patient encounter. The mHealth tool if tailored to African American patients, but addresses issues that are shared with other populations. User feedback has been obtained with patients who participated in the development of the mHealth tool, African American patients considering a clinical trial and health care providers and clinical trial educators at two cancer centers. **Conclusions:** Perceptual mapping and vector modeling methods provided insights into specific message strategies to encourage clinical trial participation including spending time discussing the clinical trial process, addressing negative perceptions of clinical trials and promoting their benefits have been integrated into an engaging, interactive mHealth tool and early user and stakeholder testing provides additional insights to refine the tool. Next steps include a controlled study to measure the impact of the tool on patient decision making.

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D026

10:15 AM-11:15 AM

SHORTENING THE ADOLESCENT LIFESTYLE QUESTIONNAIRE WHILE MAINTAINING RELIABILITY TO REDUCE PARTICIPANT BURDEN

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Background: The Adolescent Lifestyle Questionnaire (ALQ) is a 43-item self-report scale developed to measure determinants of a healthy lifestyle among adolescents, based on Pender's definition of a healthy lifestyle. A need exists for a shorter, valid, and reliable scale in order to reduce burden on adolescent research participants. The current study reports on a revised 30-item version of the scale. **Purpose:** The purpose of this study was to conduct a psychometric evaluation of the revised 30-item ALQ-R. **Methods:** Participants were 224 adolescents attending public high school in the Midwestern United States. Principal component analysis made use of oblique rotation and revealed a seven-factor solution with 30-items. **Results:** With this scale revision, each of the original seven subscales were maintained, but thirteen items were deleted. In addition, two items that were originally included in the social support subscale, but also loaded strongly on the stress management subscale, were moved to the stress management subscale. The revised subscales were 1) identity awareness (four items), 2) nutrition (seven items), 3) safety (six items), 4) physical participation (four items), 5) stress management (three items), 6) social support (three items), and 7) health awareness (three items). This sample demonstrated strong internal consistency reliability for ALQ ($\alpha = .89$), while the revised subscales ranged from good to strong ($\alpha = .70-.90$). **Conclusion:** Results of this study may be used to support the use of the 30-item ALQ-R to measure lifestyle behaviors among adolescents. Advantages of the ALQ-R are a more parsimonious scale, a clearer factor structure, and improved internal consistency. Further research should make use of diverse samples.

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D027

10:15 AM-11:15 AM

THE EFFECT OF PARENT-RATED QUALITY OF LIFE ON SCHOOL ATTENDANCE IN CHILDREN WITH A CHRONIC ILLNESS

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Objective: Adolescents with a chronic illness (CI) tend to demonstrate diminished physical and social functioning, which contribute to school attendance issues. We investigated the role of social and physical functioning in reducing school absenteeism in adolescents participating in MEND, a family-based psychosocial intervention for youths with CI. **Methods:** Forty-eight adolescents with CI (70.8% female; $M_{age} = 14.922$, $SD = 2.143$) and their parent(s) completed a health-related quality of life (HRQOL) measure pre- and post-intervention. Using multiple mediation, we examined whether parent- and child-rated physical and social HRQOL mediated the relationship between school attendance before and after MEND. Once the mediational model was not supported, we investigated whether HRQOL moderated the relationship between missed schooldays pre- and post-intervention. **Results:** Neither physical nor social functioning mediated nor moderated the relationship between missed schooldays pre- and post-intervention. Instead, higher parent-rated physical functioning directly predicted decreased number of missed schooldays, while lower parent-rated social and child-rated physical functioning predicted increased missed schooldays. **Conclusions:** Parent-perceived HRQOL may have a direct effect on health-related behaviors such as school attendance. Future research should determine whether gains in parent-rated QOL are maintained in the long term, and whether these continue to impact markers of functional wellbeing.

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D028

10:15 AM-11:15 AM

THE ROLE OF NEIGHBORHOOD CONTEXT ON PARENTING PRACTICES FOR DIET-RELATED BEHAVIORS

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More research is starting to illustrate a link between the neighborhood environment and positive parenting behavior. However, with respect to obesity-related parenting behavior, there is more theoretical support rather than empirical evidence. The present study used cross-sectional data from the NCI Family Life, Activity, Sun, Health and Eating (FLASHE) study to investigate relations between census-tract neighborhood characteristics and adolescent-reported parenting behaviors. A national sample of $n = 1657$ parent-adolescent dyads reported their home address. From this information, home addresses were geocoded and a series of neighborhood buffers were constructed based on a 10-15 minute walk around the home. Neighborhood sociodemographic characteristics were calculated using US Census data. Adolescents (ages 12-17) reported on parenting practices (e.g. control, support) and beliefs about legitimate parental authority across different domains (e.g. fruit/vegetable intake, intake of junk foods, sugary drinks). Percent of population living in an urban area was positively associated with adolescent-reported parental overt control over junk food/sugary drink intake ($r = 0.06$, $p < 0.05$), but not parental overt control over fruit and vegetable intake. Living in a neighborhood with a higher percentage of female-headed households was positively associated with adolescent-reported autonomy-supporting parenting practices for fruit/vegetable intake ($r = 0.07$, $p < 0.01$) and junk food/sugary drink intake ($r = 0.06$, $p < 0.01$). These neighborhood characteristics and other factors such as the percentage of owner-occupied housing units were also positively associated with adolescent beliefs about the legitimacy of parental authority over fruit/vegetable intake, but not junk food/sugary drink intake. These data will be a publicly available on the NCI web site. Future FLASHE data users could evaluate this relationship in other behavioral domains (e.g. physical activity/inactivity), in the context of other factors (e.g. parenting style, perceived neighborhood characteristics), on various outcomes (e.g. self-reported fruit/vegetable intake, etc), or in a dyadic framework (e.g. parent-reported rather than adolescent-reported parenting behaviors).

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D029

10:15 AM-11:15 AM

UNEXPECTED EXTENDED REAR-FACING CAR SAFETY SEAT USAGE IN PARENTS WITH CHILDREN UNDER THREE YEARS OF AGE

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Objective: Optimal use of rear-facing car safety seat reduces significantly the risk of fatal injuries among children of age 3 years or less; however guidelines from policy makers and clinicians vary, particularly in timing of the change from rear- to forward-facing. We sought to categorize mothers in terms of their rear-facing car safety seats utilization and its relationship to other health behaviors. **Methods:** We conducted a cross-sectional, online survey of mothers of children under 3 years of age ($n=141$). Items assessed mother's perceived risk and worry about their children being in an automobile accident, as well as duration of rear-facing car seat utilization. Outcomes were knowledge of car safety seats, breastfeeding duration, and adherence to vaccination schedules. A cluster analysis was performed to differentiate seemingly similar groups. **Results:** Our sample was predominantly White, had an average age of 32.2 years, had breastfed 93.8%, and 98.4% had at least some college education. We utilized cluster analysis with Euclidean distance and Ward linkage to define four distinct groups based on perceived risk, worry, and duration of rear-facing car seat use. Two primary groups of interest had (Group 1) long duration of rear-facing use with low perceived risk and worry and (Group 2) short use with high perceived risk and worry. Fisher's Exact test indicated Group 1 had higher knowledge of airbag use with car seats ($p=0.035$), lower intentions to use the recommended vaccinations regimen ($p=0.005$), were more likely to breastfeed ($p=0.044$) for longer duration ($p=0.031$). **Conclusion:** Propensity for risk aversion by the mother may be the crucial element in both an appropriate duration of rear-facing car safety seat use and refusal of recommended vaccination schedule.

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D030

10:15 AM–11:15 AM

USAGE AND ACCEPTANCE OF AN MHEALTH TECHNOLOGY FOR ENHANCING A PROVIDER-DELIVERED PARENTING INTERVENTION

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Background: We developed a provider-delivered parenting intervention combined with mHealth technology to promote emotional regulation (ER) skills in adolescent mothers' (AMs) daily interactions with their young children. We describe AMs' use of the mobile app, contextual responses, and acceptability using mixed methods. **Methods:** Provider-delivered skills were reproduced on the Android-based mobile app, specifically, valence (feelings) report [0 ("Bad") to 100 ("Good")], problem type (e.g., child, boyfriend) and specific coping strategies. The technology included a wearable biosensorband that alerts AMs when sympathetic nervous system arousal is high. AMs interacted with the app in 3 ways: (1) Sensorband Initiated (SBI), (2) System-prompted nightly assessments (NA) and (3) Self-Initiated (SI) reports. **Results:** AMs (N = 8) had the smartphone/app for a mean of 140.25 days (SD = 31.16) and made a total of 679 reports (X = 84.87, SD = 38.31, range = 49–159). NAs yielded the most reports (X = 73.75, SD = 35.16) and the most positive valence (X = 60.6, SD = 10.98). SBI elicited the fewest reports (X = 2.1, SD = 4.91) and most negative valence (X = 14.2, SD = 26.4). Mean amount of time on screen was 6.07 sec. (SD = 4.84) for valence and 3.37 sec. (SD = 1.2) for problem type. Across all types of reports, 0 ("Bad"), 50 ("OK"), and 100 ("Good") were the most frequently reported valences indicating that AMs did not use the whole range of valence provided. Qualitative interviews indicated overall high level of acceptability of the app but varying satisfaction with the form and function of the biosensorband. Most AMs provided specific instances when the technology increased their use of ER skills when dealing with children and boyfriends. Two AMs indicated that they "heard the provider's voice" when using the app. **Summary:** There was a high level of interaction with the app and qualitative data provided specific barriers and facilitators of acceptability.

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D031

10:15 AM–11:15 AM

USING A PARTICIPATORY PROCESS TO INCREASE ACCEPTABILITY OF A PROGRAM TO REDUCE SSBS AND PROMOTE CIVIC ACTION IN APPALACHIAN YOUTH

Hannah Lane, MPH¹, Kathleen Porter, PhD, RD¹, Jamie Zoellner, PhD, RD¹, Priscilla Harris, JD²¹Virginia Tech, Blacksburg, VA; ²Appalachian School of Law, Grundy, VA

Rural Central Appalachian adolescents consume a disproportionate amount of sugar-sweetened beverages (SSB) and face unique cultural barriers. To address these, an evidence-based program to decrease SSB intake in Appalachian adults, *SIPsmarter*, was adapted for adolescents. The program, Kids *SIPsmarter*, consists of six 1-hour lessons that use health literacy principles and target Theory of Planned Behavior (TPB) constructs, media literacy, and a novel concept of public health literacy.

The primary objective of this mixed-methods pilot project was to engage local youth in a participatory process to assess whether Kids *SIPsmarter* curriculum and evaluation instruments (1) captured targeted constructs and (2) were culturally acceptable. Over three days, nine local middle schoolers (aged 10–14) received the lessons, then provided feedback on the age/cultural appropriateness of the content through surveys and facilitated discussion. They also took and provided feedback on evaluation instruments and participated in two focus groups related to TPB, media literacy, and public health literacy constructs. Results were analyzed using paired t-tests and content analysis.

Participants rated all lessons as engaging and culturally appropriate (mean = 4.5/5, SD = 0.55). They identified unclear survey questions and lesson materials. They showed significant improvement in media literacy ($p < 0.001$) and public health literacy ($p < 0.011$) constructs. Specifically, participants showed an increase in civic orientation, a key public health literacy concept. No significant changes were found for TPB constructs. Focus group data shows participants applying media and public health literacy principles and demonstrating positive SSB-related TPB constructs (attitudes, subjective norms and intention).

This process provided valuable insight on the acceptability of Kids *SIPsmarter* in this unique, underserved region, as well as needed changes to materials and survey instruments to target desired constructs. These process and the resulting changes will improve the planned effectiveness testing among a larger group of Appalachian youth. Further, the participatory process promoted participants' civic orientation, and sparked a desire to engage in further projects to make positive changes in the community around SSB.

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D032

10:15 AM–11:15 AM

WHO SAYS WHAT? COMMUNICATION AND AGE DIFFERENCES AT TEEN CKD CLINIC VISITS

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INTRODUCTION: Effective provider-patient communication is associated with better health outcomes in adults with chronic illness. However, communication has not been directly observed in teens with chronic kidney disease (CKD), as well as their caregivers. Study aims were to: (1) identify the proportion of provider, teen, and caregiver talk during clinic visits and (2) distinguish whether quantity and type of talk differs between older and younger teens. **METHOD:** As part of the CHAT study, 93 teens' CKD visits were audiotaped (age $M = 15.4 \pm 2.6$, 54.3% male, 50.6% African-American). Age was dichotomized as younger (<15 years, N=40) and older (15+ years, N=53) teens. Visits were coded using the Roter Interaction Analysis System (RIAS) to generate frequency counts and types of utterances (psychosocial statements/questions, biomedical statements/questions). **RESULTS:** Mean visit length was 26.2 minutes ± 11.6 , (Range=6.8–60.0). Providers talked most (63.7% of the visit) compared to caregivers (22.3%; $p < .001$) and teens (14.0%; $p < .001$); teens talked less than caregivers ($p < .001$). All speakers made biomedical statements most and psychosocial questions least. Providers made more biomedical statements, biomedical questions, and psychosocial questions than caregivers and teens, but did not differ on psychosocial statements. Older teens talked more than younger teens ($M = 129.8 \pm 108.6$ and $M = 65.7 \pm 54.6$ respectively; $p < .01$) with more biomedical statements (older $M = 42.9 \pm 33.9$; younger $M = 23.8 \pm 22.9$; $p < .01$), but still talked less than providers and caregivers. Older teens' caregivers talked less than younger teens' caregivers ($M = 142.5 \pm 99.9$ and $M = 198.4 \pm 114.9$, respectively; $p < .05$). **CONCLUSION:** Communication during visits predominantly consisted of provider talk, with teens speaking least. Still, the association between older age and more teen biomedical talk is consistent with a transition to adulthood. Future research should examine how communication patterns and age relate to teen adherence and health outcomes.

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D033

10:15 AM–11:15 AM

ARE DISEASE INFORMATION LINKS ON PRESCRIPTION DRUG WEBSITES MISLEADING?

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Objective: Determine whether links from branded prescription drug websites to websites containing disease information mislead participants about drug benefits, and whether pop-up disclosures diminish this potential effect. **Methods:** We randomly assigned online panelists with depression (N=1,071) to view a fictitious prescription drug website that had: (1) no link to a disease information website (control), (2) a link with no disclosure, (3) a link with a short pop-up disclosure, or (4) a link with a long pop-up disclosure. If participants in the link conditions did not click the link before leaving the drug website, they were returned to the website and prompted to click it. After viewing one or both websites, all participants completed an online questionnaire assessing recall, perceptions, and intentions. **Results:** Few participants (12%) clicked the disease link without prompting; 67% did so when prompted. Compared with control participants, participants in link conditions were more likely to confuse disease information with drug benefits, $pp = .004$. Disclosures did not diminish these effects, and exposure to disease information did not affect other drug perceptions or intentions. **Discussion:** Consumers seem to confuse information on disease websites with information on branded prescription drug websites. Disclosures may not adequately help consumers to distinguish between the two types of information, which may influence treatment decisions.

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D034

10:15 AM-11:15 AM

CONSUMER PERCEPTIONS OF FRONT-OF-PACK NUTRITION CLAIMS DURING THE NEPALI NUTRITION TRANSITION

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Obesity is increasing in Nepal, with the highest rates occurring in urban regions and among people of higher SES. Past research on nutrition transition suggests that an obesogenic food environment (including food marketing) contributes to this problem. This study examines the marketing strategy of front-of-pack nutrition claims (FOP NCs). We conducted a mixed-methods experimental survey in which 239 urban Nepali supermarket shoppers were interviewed about the impact of FOP NCs on their attitudes and purchase intentions towards food products, and their attitudes towards the FOP NCs themselves. We analyzed consumers' ratings and open-ended responses to the items, *how much do you trust this FOP NC and why?*, *how much does the FOP NC influence your purchase decision and why?*, and *what are your top priorities when making food purchase decisions?*

Using inductive thematic analysis, we grouped participants' responses about FOP NCs' trustworthiness and influence. The most common explanation for trusting FOP NCs was having a positive view of the message source, while common explanations for not trusting FOP NCs were own knowledge or experiences contradicting the FOP NC, the inability to verify the claim, or declaring a mistrust of marketing messages. Regarding the perceived influence of FOP NCs, many respondents focused on the information being useful for learning about product contents and for making purchase decisions. Other respondents described FOP NC information as useful to certain consumers, such as those who are health conscious, diet conscious, or concerned about food safety and hygiene. Some respondents, however, said that FOP NCs were not useful due to a lack of credibility. All themes and their frequencies will be reported. Finally, shopping priorities elicited from participants were compared to Connors and colleagues' (2001) *food choice values*, and correspondence was found for all primary values save for *convenience*.

These responses help to illuminate consumer attitudes in a developing-world food market, one that is beginning to experience marketing practices already established in wealthier food markets. Results suggest that consumer attitudes and associated food decision-making factors vary across markets.

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D035

10:15 AM-11:15 AM

DETERMINANTS OF CONTRACEPTIVE USE IN NIGERIAN COUPLES: EVIDENCE FROM THE 2013 DEMOGRAPHIC AND HEALTH SURVEY

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Contraceptive use, a primary method of reducing fertility rates, has grown in the developed world, while uptake in Africa has remained relatively slow. Nigeria in particular remains a focus for increasing contraceptive use, as it is one of the most populous countries in Sub-Saharan Africa. The objective of the current study was to investigate determinants of contraceptive use in Nigerian couples, with particular attention toward male attitudes toward contraception and power dynamics within couples. Data from the 2013 Nigeria Demographic and Health Survey were analyzed for this study. The primary outcome variable was whether a woman was using contraceptives or not, delineated as not using contraceptives, using traditional/folkloric method, or using modern method. The researchers used multinomial logistic regression models in STATA 13 to estimate the likelihood of contraceptive use based on male and female demographics, concordance with male partner desire for family size, male and female fertility preferences, female decision making power, and male partner attitudes toward contraceptive use. Women's fertility preferences were significant predictors of contraceptive use. Male partner perception that decisions regarding health should be made jointly or primarily by women was positively associated with use. Women were less likely to use contraceptives in couples in which male partners had greater earning power. Number of children born was a significant, positive indicator of contraceptive use. Finally, men who viewed contraceptives as an enabler for promiscuity had female partners less likely to use contraceptives. These findings highlight the importance of male partners in women's contraceptive decision making. Initiatives to increase contraceptive use in Nigeria and other African countries should move beyond individual reproductive health education and work towards fostering positive attitudes towards contraception in men.

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D036

10:15 AM-11:15 AM

DOES SOCIAL ISOLATION MODIFY THE RELATIONSHIP BETWEEN HEALTH LITERACY AND MORTALITY RISK?

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Low health literacy is a risk factor for all-cause mortality in older adults. Having frequent contact with a range of different people could buffer the negative effects of low health literacy on mortality risk. We investigated the relationships between social isolation, health literacy, and all-cause mortality, and the potential modifying effect of social isolation on the latter relationship. Data were from $n=7731$ participants in the English Longitudinal Study of Ageing (ELSA), a population-representative cohort of English adults aged ≥ 50 years. Social isolation was assessed by assigning one point for less than monthly contact with each of children, family members, and friends, and not participating in organisations. Scores (out of 4) were split at the median to indicate 'high' vs 'low' social isolation. Health literacy was assessed as reading comprehension of a fictitious medicine label from the International Adult Literacy and Skills Survey. Health literacy was classified as 'high' ($\geq 3/4$ items correct) or 'low' ($< 3/4$ correct). The outcome was all-cause mortality up to February, 2013. Cox proportional hazards models were used to estimate the hazard ratios (HRs) for all-cause mortality, adjusted for sociodemographic factors, chronic conditions, activities of daily living, health behaviours, and cognitive function. In total, 12.4% of the sample had low health literacy and 16.3% died by the census date. Low health literacy (adj. HR=1.22, 95% CI 1.03–1.46) and high social isolation (adj. HR=1.29, 95% CI 1.12–1.47) were associated with increased mortality risk. Low health literacy was associated with mortality risk in those who were socially isolated (HR=1.43, 95% CI 1.11–1.83), but not in those who were not socially isolated (HR=1.12, 95% CI 0.86–1.44). Low health literacy and high social isolation are independent risk factors for mortality. Frequent contact with a diverse group of people may buffer the negative effect of low health literacy on mortality risk.

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D037

10:15 AM-11:15 AM

ILLNESS INFORMATION AVOIDANCE IS ASSOCIATED WITH LOWER NEED FOR COGNITION AND INTUITIVE RISK BELIEFS

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Illness risk information avoidance can be used to defend against threats to self-esteem or cherished beliefs (e.g., personal invulnerability), and reduces the efficacy of health education. Understanding the correlates of illness information avoidance can inform ways health campaigns can mitigate information avoidance. The goal of this research was to identify modifiable factors associated with diabetes risk information avoidance. Mturk workers ($N=253$, mean age=34.1, SD=10.1; 58.5% male; 81.4% white) completed a questionnaire assessing their perceived risk for type 2 diabetes, diabetes risk information avoidance, and potential determinants of risk information avoidance, including one's preference for effortful cognition (need for cognition), the intuitive belief that developing diabetes is unpredictable and that thinking about diabetes risk could increase actual risk (cognitive causation), and health locus of control. We identified predictors of diabetes information avoidance with a single multivariable linear regression model that controlled for family history of diabetes and demographic characteristics. One-quarter of participants had risk information avoidance scores >3 out of 5 ($M=2.7$, $SD=0.9$), reflecting at least some avoidance. Lower need for cognition ($\beta=-0.15$, $p=.02$), lower belief in unpredictability of illness ($\beta=-0.13$, $p=.04$), and stronger cognitive causation beliefs ($\beta=0.18$, $p<.01$) were associated with greater diabetes risk information avoidance. Health locus of control was not associated with avoidance ($\beta=0.10$, $p=.11$). Younger age was the only covariate associated with greater risk avoidance ($\beta=-0.14$, $p=.03$). Individuals who avoid disease risk information are less likely to engage in disease prevention. Understanding and addressing diverse aspects of risk information avoidance will improve health information campaigns. Study findings offer promising strategies for doing this. For example, individuals with low need for cognition rely more heavily on peripheral cues to evaluate messages, so messenger attractiveness or credibility may mitigate information avoidance. Health messaging campaigns that address maladaptive beliefs about illness such as the unpredictability of illness and cognitive causation might also help mitigate information avoidance.

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D038

10:15 AM-11:15 AM

PATIENT AUTONOMY IN ART: EXAMINING THE PREFERRED ROLE IN TREATMENT DECISION MAKING AMONG CHINESE INFERTILE WOMEN

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Treatment decision-making as central to patient participation in healthcare, which leads to patient autonomy and empowerment. Studies on professionals at assisted reproduction clinics revealed that infertile patients as unassertive, compliant and largely reliant on physicians in different aspects of treatment decisions, especially whether deciding to continue or terminate treatment altogether. However, without recruiting patients as informers, little is known about their actual experience and preference. The study attempted to understand the treatment decision making preferences in Chinese women undergoing fertility treatments. A cross-sectional survey was conducted with infertile women undergoing IVF. Information was collected on infertility diagnosis, treatment history, their preferred decision making role, and demographic characteristics. Women undergoing IVF treatment were approached in a fertility clinic on the day of pregnancy test. 205 completed questionnaires were eventually returned. On average, participants were 37.0 years±3.5, married for 7.4 years±3.7, and suffered subfertility for 4.1 years. Most of them preferred shared by leaning passive role (41.9%) or total passive role (40.4%). 89.4% of them considered doctors should best decide diagnosis and evaluate treatment options, only 10.1% preferred to share responsibility and no one resume an autonomous role. Similarly, most women prefer minimal role and rely heavily on physicians to decide whether to continue or terminate further treatments (84.3%), only a small proportion prefer to share responsibility (7.1%), or seize autonomy (8.6%). Chinese infertile women appeared to be more compliant in making treatment decisions as compared to their Western counterparts. Results revealed majority of Chinese infertile women prefer to rely on healthcare physicians and adopt minimal role in treatment decision-making, which aligned with subjective impression held by healthcare professionals, highlighting a need to empower and facilitate Chinese women in fertility treatment decisions in order to improved clinical outcomes. This study adds to our understanding of Chinese women's role preference and level of involvement in infertility treatment decision making by providing quantitative evidence from patients subject experience.

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D039

10:15 AM-11:15 AM

PATIENT PREFERENCES FOR DETAILS ABOUT A MEDICAL CONDITION: AGE, SEX, AND COMMUNICATION PREFERENCES MATTER

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Supporting patients in understanding and processing health information is central to promoting patient and family engagement, a crucial priority in contemporary medicine. Patient preferences for information may be affected by their demographic characteristics, communication preferences, and emotional state. To understand preferences about medical communication that patients may prefer, we surveyed a university community sample of 366 respondents aged 18-87 years ($M = 31$; $SD = 18$) about the degree of information regarding a medical condition they would desire, both for themselves and for a close friend or family member. A 5-point Likert scale was used for rating level of detail desired from low (1) "the big picture and the basics that the medical team thinks I must know" to high (5) "I want to know absolutely everything the medical team knows including all the specific medical details". Participants generally preferred a moderate to high level of medical detail ($M = 3.97$; $SD = 1.06$). To understand more about demographic and communication styles that might affect individual preferences for the desired detail in medical communication, we developed a regression model to predict preferred degree of detail, incorporating age, sex, degree of preference for communication using medical terms, and current treatment for anxiety or depression (Adjusted $R^2 = .133$; $F(5,346) = 11.74$; $p < 0.01$). Older age ($b = 0.009$; $\beta = 0.152$; $p < 0.01$), female gender ($b = 0.323$; $\beta = 0.139$; $p < 0.01$) and a greater preference for communication from a doctor using medical terms ($b = 0.376$; $\beta = 0.285$; $p < 0.01$) predicted preference for degree of medical detail in communication. Undergoing current treatment for anxiety and depression was not significant. To effectively support patients in gathering information it will be important to understand what drives gender and age differences and how to effectively tailor information to patient needs and preferences.

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D040

10:15 AM-11:15 AM

PHYSICIANS' PERCEPTIONS OF RECOMMENDING ACTIVE SURVEILLANCE FOR MEN WITH LOW-RISK PROSTATE CANCER: A QUALITATIVE STUDY

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Active surveillance (AS) is a recommended management strategy for men with low-risk prostate cancer (PCa). However, many patients continue to select an active treatment (AT; e.g., surgery or radiation). We examined physicians' perspectives about the factors influencing their own treatment recommendations for low risk PCa patients and their opinions about what patients need to make informed treatment decisions. We conducted in-depth interviews with urologists ($N=11$), radiation oncologists ($N=12$) and primary care physicians ($N=10$) from HMO, VA, and fee for service settings. Each interview was transcribed and then analyzed by 2-3 coders using NVivo. Most physicians said that treatment recommendations vary between healthcare settings, suggesting the presence of a financial incentive for AT in fee for service settings. Physicians reported that patient anxiety influences their own treatment recommendations ("One of the biggest impacts is patient anxiety. The idea of AS...is a really hard one for some people to accept"). Similarly, spouses/family members tend to oppose AS due to their own anxiety ("I think in general, spouses are less likely to want [AS]...they're worried that I'm going to let their husband die"). Educating patients about the lack of urgency to make a decision is considered an important way to reduce patient anxiety ("One of the things we need to reassure them is that 'you have time here'"). While most physicians had no reservations about recommending educational resources such as decision aids (DAs), those with reservations were concerned that patients could misinterpret information ("Anytime a patient is receiving or interpreting medical information on their own, there is a risk of...a misunderstanding"). These themes highlight the impact of anxiety on low risk PCa treatment decisions and the need for providing high quality patient education early in the treatment decision-making process.

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D041

10:15 AM-11:15 AM

PREDICTORS OF ADHERENCE TO INITIAL COLPOSCOPY AND LONG-TERM FOLLOW-UP AFTER AN ABNORMAL PAP SMEAR AMONG INNER-CITY WOMEN

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Objectives: This study aimed to identify the predictors of adherence to initial colposcopy and 6-month follow-up among underserved women, given low rates of adherence following an abnormal Pap smear. Based on the Cognitive-Social Health Information Processing (C-SHIP) model and previous research, we examined psychosocial predictors of adherence to follow-up care. **Methods:** Inner city women ($N=210$) scheduled for a diagnostic colposcopy completed a questionnaire assessing demographics and cognitive-affective variables including perceived risk for cervical cancer, self-efficacy in managing those risks, fatalism, affective distress, and attentional style. They were then randomized to one of three conditions (standard care, tailored print intervention, and tailored telephone intervention). **Results:** 67.1% of women adhered to initial colposcopy in a timely manner, while 22.4% women delayed attending the appointment, and 10.5% never attended. Lower fatalism and higher self-efficacy predicted timely adherence compared to delayed and non-adherence respectively, after controlling for intervention condition. Women who adhered were more likely to be employed. 60.0% of women did not promptly adhere to 6 months follow-up. Participants with a low level of monitoring style were more likely to adhere. **Conclusions:** Higher self-efficacy and lower fatalistic beliefs were associated with greater adherence to initial colposcopy, while low monitoring attentional style was associated with greater adherence to 6-month follow-up. Increasing women's sense of confidence, views about the future, and ability to distract from threat may improve adherence.

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D042

10:15 AM-11:15 AM

PROGRAM DESIGN FEATURES AFFECT PARENTAL DECISION MAKING ABOUT EXPANDED VOLUNTARY NEWBORN SCREENING

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Newborn screening (NBS) is one of the most successful public health programs in U.S. history. Nearly all babies born in the U.S. are tested after birth for rare, serious, and manageable disorders through mandatory state NBS programs. The U.S. Department of Health and Human Services provides national guidance on candidate conditions for NBS in the form of the Recommended Uniform Screening Panel (RUSP). Recently, there have been calls for an expanded, voluntary model to augment traditional NBS, facilitating early diagnosis and treatment of a wider range of disorders. Theory-driven analyses examining parental intentions to use voluntary NBS are needed to guide program design and to develop educational tools supporting informed decision making. We applied the reasoned action framework to examine parental intentions to participate in an expanded, voluntary NBS initiative to test infants for several health conditions not currently part of the RUSP. We recruited a national cohort of recent and expectant parents who completed a self-administered online survey ($N = 1,001$). Using a mixed-level fractional factorial experiment, we studied parental preferences for timing of consent (i.e., birth, two weeks, and two months), cost (i.e., free, \$10 with waiver, and \$10), consent format (i.e., print or electronic), and testing options (i.e., fixed versus custom screening panel). We conducted a hierarchical regression analysis predicting parental intentions. In Block 1, attitude, perceived normative influence, and perceived behavioral control explained 80% of the variance in intention, $F(3, 997) = 1320.03, p < .001$, with perceived normative influence emerging as the strongest predictor, $\beta = .54, p < .001$. In Block 2, we found no evidence that manipulated program features altered mean levels of intention, $\Delta F(6, 991) = 0.68, p = .662$. In Block 3, we introduced interaction terms and found timing of consent, cost, and consent format moderated the relative importance of reasoned action constructs on intention, $\Delta R^2 = .01, \Delta F(18, 973) = 2.35, p = .001$. Program design features may impact the psychological mechanisms underlying parental decision making for expanded voluntary screening, with important implications for strategic development of parent education, outreach, and informed consent procedures.

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D043

10:15 AM-11:15 AM

PROVIDERS' PERCEPTIONS OF PRECONCEPTION STRATEGIES FOR WEIGHT MANAGEMENT.

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For positive prenatal and postpartum outcomes, women should enter pregnancy at a healthy body mass index (BMI). However, little is known about appropriate strategies to assist in achieving healthy pre-conception weight status. One potential strategy is healthcare providers' (HCPs) referral to intervention programs. The purpose of this study was to identify interventions that would be supported by HCPs.

OB-GYN HCPs within the Carilion Clinic system were sent a link to an anonymous survey that assessed their demographics, current practices, and perceptions of preconception strategies for weight management. Independent T-Tests were conducted to determine potential differences in obese and normal weight HCP, and Pearson's Correlations were conducted for willingness to recommend and perceptions of potential intervention effectiveness. Due to the small sample size, significance was set at $p < .01$.

Twenty-one of 31 eligible HCPs (68%) completed the survey: 67% were attending physicians. HCPs were 43.6 years of age (± 10 years), females (67%) and Caucasian (86%), with an average BMI of 26.33 (± 5.29). HCPs were willing to recommend patients to a variety of weight loss interventions (e.g., in-person community based programs, online education programs, phone based programs). HCPs were significantly less likely to prescribe weight loss medication ($p < .01$) when compared to their support of community programs. Obese HCPs were more likely to be willing to prescribe weight loss medications to their pre-pregnancy patients than their normal weight counterparts ($p < .01$). Willingness to recommend and potential positive effects were strongly, positively correlated ($r > .65$) for all proposed behavioral interventions.

The data presented here provide preliminary support of HCPs for behavioral interventions to promote preconception weight management. Developing and testing interventions that align with the current pathway of care and HCPs perceptions increases the likelihood of improving patient-centered outcomes (i.e., preconception weight loss).

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D044

10:15 AM-11:15 AM

SHARED DECISION MAKING DURING INPATIENT ROUNDS: OPPORTUNITIES FOR BEHAVIORAL MEDICINE TO IMPROVE COMMUNICATION

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Purpose/objectives: Shared decision-making (SDM) improves patient engagement and health care outcomes. Evidence indicates that patients are willing and able to engage in SDM. Despite the demonstrated value, little is known about the extent of SDM in general inpatient settings. We sought to quantify key SDM behaviors during morning rounds at two tertiary, university-based hospitals. **Design and methods:** We completed a cross-sectional study of inpatient rounds on pediatrics and internal medicine services over a 12-week period. Trained observers used a 9-item validated observation tool, the Rochester Participatory Decision-Making Scale (RPAD), to assess occurrence of SDM behaviors. Mean scores across all RPAD items were calculated, and performance across pediatrics and internal medicine services was compared using t-tests. **Results:** A total of 32 teams (16 pediatrics, 16 medicine), 95 ward rounds (48 pediatrics, 47 medicine), and 268 unique patient encounters (141 pediatrics, 127 medicine) were observed. The overall performance in pediatrics trended higher than medicine (mean total RPAD score of 4.27 vs. 3.60, p). **Conclusions/discussion:** Although traditionally seen as the domain of physician hospitalists and nurses, our data show important opportunities for psychologists to improve patient care and health outcomes by strengthening SDM on rounds. Interprofessional clinical care and interprofessional teaching both hold great promise.

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D045

10:15 AM-11:15 AM

STAKEHOLDERS' PERCEPTIONS OF WAYS TO SUPPORT DECISIONS ABOUT HEALTH INSURANCE MARKETPLACE ENROLLMENT: A QUALITATIVE STUDY

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Background: Approximately 29 million individuals are expected to enroll in health insurance using the Affordable Care Act (ACA) Marketplace by 2022. Individuals seeking to enroll in health insurance may struggle to assess plan options and decide on the health insurance plan that best suits their needs. **Methods:** We interviewed stakeholders to better understand the challenges associated with health insurance enrollment in the ACA Marketplace. We also elicited feedback about information essential to include in health insurance decision support tools. Interviews were transcribed and coded and themes were identified using an inductive thematic analysis method. **Results:** Stakeholders stated that unclear terminology, high costs of ACA Marketplace plans, lack of financial literacy among many consumers, and anxiety about making a permanent decision were key challenges experienced by consumers. Stakeholders recommended using plain language tables defining complex terms, chunking information into small pieces, and using engaging graphics to communicate information about health insurance. Stakeholders thought that narratives of how others made decisions about insurance might be helpful to consumers, but recommended that they be tailored to the needs of specific consumers. **Conclusion:** This study identified key stakeholders' perceptions of health insurance decision support strategies in ACA Marketplace enrollment. Strategies that clarify health insurance terms, tailor information, acknowledge the fear associated with making the wrong choice and enable cost comparison could benefit consumers. Narratives developed should be simple and inclusive enough for diverse populations.

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D046

10:15 AM-11:15 AM

TESTING A BRIEF, CLINICALLY-BASED LUNG CANCER SCREENING DECISION AID

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The Centers for Medicare & Medicaid Services recently added lung cancer screening as a benefit for patients at risk for lung cancer covering counseling and a shared decision-making visit with a care provider and annual screening with low-dose computed tomography. The required shared decision-making process between care providers and patients is largely unexplored. To help fill this gap in the evidence, an 8-page, plain-language, decision aid (DA) based on the conflict theory of decision-making to facilitate shared decision-making between providers and patients. After external review of the DA for content validity, it was pilot tested in a sample of high risk patients. A prospective, one-group, mixed-method design was used to evaluate the DA and shared decision-making process. Intervention fidelity, feasibility, patient values, screening intent, acceptability and satisfaction were measured. Descriptive statistics and thematic analysis were used to interpret the data. Four primary care physicians and twenty patients were recruited from an urban primary care center affiliated with a School of Medicine and a large, community medical center in the southeast U.S. The majority of patients were female (n=14; 70%), African American (n=10; 50%) and had a high school education (n=15; 75%). Average patient age was 65 years. Patients and physicians rated the DA as helpful, easy to read and use, and acceptable in terms of timeframe (observed; t=11.6 min. (SD 2.7). After the decision-making discussion, the majority of patients (n=16; 80%) wanted to be screened. Physicians recommended screening for the majority of patients (n=19; 95%). Findings suggest that using an interactive, theory-based DA in clinical settings is feasible. The findings are limited by the one-group design, small sample size and staged setting. Results from this pilot study will be used to enhance the DA intervention, its delivery in clinical settings and determine a sample size for a full-powered study to further explore the effect of the DA intervention on the shared decision-making process.

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D047

10:15 AM-11:15 AM

THE USE OF PERSONAL NARRATIVES IN A DECISION SUPPORT TOOL FOR UNINSURED INDIVIDUALS ENROLLING IN HEALTH INSURANCE

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Purpose: Although most patient decision aids include personal narratives, research on the effect of narratives has yielded mixed results. This project analyzes stakeholders' feedback on process-based narratives in a decision support tool for those enrolling in health insurance. **Methods:** Forty stakeholders (consumers, certified application counselors, policy experts, and health care providers) in the St. Louis area were recruited to participate in semi-structured qualitative interviews. Interviews were audio recorded, transcribed, coded by two members of the research team, and analyzed using an inductive thematic analysis approach. **Results:** Stakeholders reacted positively to the narratives. Many felt the narratives were realistic and served as helpful models of the decision-making process. However, some were concerned that narratives might take too much time and overwhelm consumers. Some also felt that written narratives could be less accessible for consumers with limited literacy. **Conclusion:** Stakeholders' response to the narratives is consistent with literature about process oriented narratives, suggesting that they can demonstrate informed decision-making without biasing consumer choices. Tailoring narratives more closely to individuals or adding audio to the narratives could reduce the time and cognitive burden associated with reading each narrative story.

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D048

10:15 AM-10:15 AM

ANHEDONIA AS A PREDICTOR FOR TREATMENT ADHERENCE IN ADULTS WITH DIABETES

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Diabetes self-care requires motivation as well as commitment to a treatment regimen that often includes exercise and dietary adjustments. Comorbid depression presents additional barriers to treatment adherence. Of particular interest are symptoms of anhedonia, given previous research demonstrating anhedonia is related to poor treatment compliance among patients with chronic health problems.

The present study examined the relationship between anhedonia and diabetes self-care among 115 participants ($M_{age} = 54.3 \pm 10.95$ years, 70.9% female, 39.6% ethnic minority) who were recruited as part of an ongoing diabetes self-management intervention at a federally qualified health center. Depression was measured pretreatment using the PHQ-9; anhedonia was assessed using the first item. Adherence to diabetes self-care was defined by the Summary of Diabetes Self-Care Activities (SDSCA). Demographics were obtained in a clinical interview.

Anhedonia approached significance as a predictor of SDSCA Specific Diet ($\beta = -0.18$, $R^2 = 0.02$, $p = .06$) and Exercise ($\beta = -0.16$, $R^2 = 0.02$, $p = .09$) subscales. These findings held after controlling for gender, education, race, and age. Notably, anhedonia did not predict enrollment in or completion of a 5-week diabetes management program.

Anhedonia symptoms appear to impede adherence to diabetes self-management behaviors such as diet and exercise. However, it does not seem to impede enrollment in adjunctive treatment or serve as an additional barrier to completing treatment. Of clinical importance to providers is the finding that a single item from the PHQ-9 can provide insight into common diabetes treatment barriers. A short screening measure can provide immediate information for treatment planning and identifying barriers for diabetes self-management.

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MERITORIOUS AWARD WINNER
D049

10:15 AM-10:15 AM

COMBINING COMMON SENSE MODEL, COGNITIVE BEHAVIORAL PRINCIPLES, AND REAL WORLD EXPERTISE TO PROMOTE DIABETES SELF-MANAGEMENT

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In recent years, several diabetes self-management education and support (DSME/S) programs have demonstrated clinically meaningful changes in T2DM patients; however, there appears to be little translation of these programs from research into real world settings because these settings often lack clear blueprints for how to create or implement DSME programs that best fit their organizational needs and structure. Thus, the current study aimed to address this research-practice gap through the development of a brief, theoretically-driven, and behaviorally-focused group-based DSME curriculum for use in real world settings. Phase 1 of the study entailed concentrated efforts to join behavioral health researchers, community health leaders, and T2DM experts in combining the Common Sense Model of Self-Regulation, cognitive behavioral principles, and current guidelines from the American Diabetes Association into a novel DSME curriculum. Phase 2 of the study then focused on implementing the resulting four-session curriculum, *An Active Approach to Diabetes Self-Management*, in local community centers and examining its early acceptability, feasibility, and effectiveness in producing clinical and psychosocial outcomes of interest. A total of 22 adults with T2DM, ranging in age from 35 to 87 years, were recruited from four community organizations and entered into four separate groups. Results indicate statistically significant improvements in participants' glycemic control, diabetes knowledge, and diabetes self-efficacy over the course of the study. In addition, results indicate that both participants and community liaisons were highly satisfied with the intervention. These findings contribute to the field's growing knowledge of how best to capitalize on clinical, research, and real world expertise to design thoughtful and practical DSME programs.

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D050

10:15 AM-11:15 AM

DAILY STRESS OF TYPE 1 DIABETES ACROSS THE TRANSITION TO EMERGING ADULTHOOD

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Emerging adulthood is a risky time for type 1 diabetes due to life transitions that contribute to daily hassles (diabetes and non-diabetes related) that may complicate illness management. Little is known about the daily challenges facing emerging adults with type 1 diabetes. We examined the types of daily stressors experienced by high school seniors as they transitioned into emerging adulthood. Adolescents with type 1 diabetes completed a 2-week daily diary in their senior year of high school (late adolescents) and one year later (emerging adults) (N=219; 60% female; 77% nonHispanic White, 12% Hispanic). Each day, they described their most stressful diabetes or non-diabetes event. Content coding identified that daily stress during late adolescence involved school (33%), extracurricular activity (11%), diabetes management behaviors (12%) and dealing with high (9%) and low blood glucose (BG) (6%). Similar stressors were reported one year later, but emerging adults reported significantly less school (27%) and extracurricular stress (8%), more work stress (13%), and fewer problems with high BG and managing diabetes away from home, p values < .05, despite also having poorer diabetes management than in late adolescence. Intercorrelations suggested emerging adults face qualitatively different BG regulation challenges. For example, in late adolescents, low BG stress was described with general diabetes management problems, but in emerging adults, was also described with problems of negative emotions, poor sleep, and conflict with romantic partners and family. Shifts in daily stress have implications for diabetes outcomes, as evidenced by work stress associations with poor glycemic control in emerging adults. Findings illuminate the stressful context of daily diabetes management during emerging adulthood, and may guide programs to facilitate better adjustment across this important transition.

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D051

10:15 AM-11:15 AM

IS SOCIAL SUPPORT ASSOCIATED WITH DIABETES DISTRESS AND GLYCEMIC CONTROL IN AFRICAN AMERICANS WITH TYPE 2 DIABETES?

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Background: African Americans suffer disproportionately from type 2 diabetes (T2D) and its complications. Stress associated with the burden of diabetes (diabetes distress) has been associated with worse diabetes control. We examined the relationship between diabetes distress, social support, and glycemic control in a sample of low-income African Americans with T2D living in Alabama. **Methods:** A sample of 120 low-income African American adults with uncontrolled T2D (HbA_{1c} ≥ 7.5%) was enrolled in the trial. HbA_{1c} was assessed at baseline and at 6 months. Using validated instruments, diabetes distress and perceived support from healthcare providers (HCP support) and family/friends (FF support) were assessed at baseline and at 6 months. Follow-up data were available for 97 participants (81%). The paired t-test assessed the change from baseline to 6 months. Linear regression analyses tested for bivariate associations and also tested whether perceived support mediated the relationship between diabetes distress and glycemic control. **Results:** Mean age was 55 years (SD=8.3), the mean HbA_{1c} was 10% (SD=1.7%), and 57 (59%) were insulin users. At 6 months, HbA_{1c} was reduced by 0.6 ($p=0.003$), diabetes distress was reduced by 0.4 (ptc was positively associated with change in diabetes distress ($p=0.009$), which was inversely associated with FF support ($p=0.051$). Neither HCP support nor FF support were significantly associated with change in HbA_{1c}. In the final mediation model, perceived support did not significantly mediate the relationship between diabetes distress and change in glycemic control. **Conclusions:** Although analyses found no mediation of social support on the relationship between diabetes distress and glycemic control in this small study, it was observed that social support from family/friends was associated with less diabetes distress. These relationships should be examined in a larger sample and in intervention trials designed to improve social support.

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D052

10:15 AM-11:15 AM

LIFETIME DURATION OF DEPRESSIVE DISORDERS IN PATIENTS WITH T2DM

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Objective. Depressive disorders are highly debilitating for people with type 2 diabetes (T2DM), significantly affecting severity of complications, functional ability and early mortality. Few studies have systematically examined the course of diagnosed depression (e.g. Major Depressive Disorder; MDD) in a sample of T2DM patients. This study examined the chronology of depressive disorders in patients diagnosed with both T2DM and MDD. **Research Design and Method.** Participants completed the Structured Clinical Interview for DSM-IV (SCID), an interview that assesses presence/absence of psychiatric disorders over the life course. Onset, offset, and full remission dates were recorded for MDD and other depressive disorders (e.g. Dysthymia, Adjustment Disorder with Depressed Mood and Depressive Disorder Not Otherwise Specified). **Results.** Participants (N=50) were 57±9 years old, White (100%), female (68%), with at least some college/trade education (62%), and modal income of \$21,000-\$60,000 (55.6%). Participants reported a mean of 1.84 major depressive episodes (SD=0.82) and mean of 0.46 episodes of other depressive disorders (SD=0.68). Over the life course, MDD was present for a median of 19.21 months (95% CI=12.9-40.0) and other depressive diagnoses were present for 13.48 months (95% CI=4.0-60.7). Participants spent a median of 36.12 months (95% CI=19.0-60.0) with any type of depressive disorder. The average episode duration of MDD was 21.6 months (SD=31.9). Other depressive episodes lasted a median of 12.0 months (95% CI=3.0-29.0). **Conclusions.** Depressive disorders persist for much longer periods of time in people with T2DM than the general population (e.g. 22 weeks). Findings from this study further emphasize the need to screen for and aggressively treat depressive disorders in patients with T2DM.

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D053

10:15 AM-11:15 AM

LONGITUDINAL ASSOCIATIONS BETWEEN CONTROLLED MOTIVATION, DISORDERED EATING BEHAVIORS AND POOR DIABETES OUTCOMES

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Limited research indicates controlled motivation (CM; motivation from external sources) is associated with disordered eating behaviors (DEB) in the general population. Youth with type 1 diabetes (T1D) are at increased risk for DEB, which is cross-sectionally associated with poorer adherence and glycemic control. The objective of this study was to examine whether CM was associated with increased DEB, and whether healthy eating self-efficacy (HESE) modified this association. We further examined the longitudinal association of DEB with diabetes outcomes over 18 months.

Youth with T1D (n = 80, aged 12-16 yrs) participated in an 18-month, randomized trial of a family-based behavioral nutrition intervention. Self-report measures of DEB, CM, HE SE, and diabetes adherence, as well as laboratory-assessed HbA_{1c} and 1,5AG, were obtained at baseline, 6, 12, and 18 months. Linear mixed models estimated the association of DEB with adherence, HbA_{1c} and 1,5AG, as well as the associations of CM with DEB and the moderating role of HESE all adjusting for treatment group, BMI, parent socioeconomic status, age, and gender.

DEB was associated with poorer glycemic control indicated by higher HbA_{1c} ($B \pm se = .02 \pm .01$, $p = .004$) and lower 1,5AG ($-.03 \pm .01$, $p = .04$); an inverse association of DEB with adherence did not reach statistical significance ($-.16 \pm .09$, $p = .07$). CM was positively associated with DEB (7.45 ± 2.06 , $ppp = .01$).

Findings indicate a potential adverse effect of CM on higher DEB among youth with T1D, especially those with low HESE. Results extend understanding of the role of DEB in glucose control over time and indicate a need for experimental research to test whether increasing internalizing motivation and self-efficacy for eating healthfully reduces DEB in this population.

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D054

10:15 AM-10:15 AM

MISMATCH BETWEEN PATIENT INFORMATION-SEEKING AND PHYSICIAN EXPECTATION AT A DIABETES OUTPATIENT CLINIC

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Background: Patient-physician communication has long been criticized as inadequate yet few studies have attempted to quantify the communication gap. **Methods:** We recruited 50 patients from a diabetes outpatient clinic. Each patient was asked to list the questions they asked the physician during his/her visit, and the patient's physician was asked to list the questions the physician wished that the patient had asked. All questions were assigned to pre-defined categories (etiology, treatment/procedure/self-management, diagnosis, prognosis/risk, diet/exercise, symptom/side effect, self-motivation, and other) and agreement between what patients asked and what physicians expected was analyzed. We used Cohen's kappa to measure inter-rater agreement and the agreement between patients and their physicians. **Result:** Inter-rater reliability was high: the relaxed kappa was 89.8% ($p < 0.001$) for any topic matched, and the strict kappa was 71.4% ($p < 0.001$) for all topics matched. Agreement between what patients asked and what physicians expected was low. Patients asked questions of etiology and symptoms/side effect while physicians expected patients to ask prognosis/risk, treatment/procedure/self-management and diet/exercise. Etiology had $\kappa = 42.9\%$ ($p = 0.003$), prognosis/risk had $\kappa = 34.2\%$ ($p = 0.008$), symptoms/side effect had $\kappa = 23.9\%$ ($p = 0.095$), treatment/procedure/self-management had $\kappa = 23.0\%$ ($p = 0.104$), and diet/exercise had $\kappa = 5.7\%$ ($p = 0.634$). **Conclusions, Discussion and Future Work:** There is a significant mismatch between patient information seeking and their physicians' expectation. We speculate that psychological factors (patients may not want to discuss uncomfortable prognosis or outcome) and time constraint during the visit (physicians may not have time explaining etiology) play important roles although the causes of mismatch will be investigated in the future.

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D055

10:15 AM-10:15 AM

PREDICTORS OF DAILY ACTIVITY AMONG INACTIVE ADULTS WITH T2DM

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Adults with type 2 diabetes (T2DM) are often physically inactive and have lower exercise capacity than that of matched controls. The majority of physical activity (PA) among these patients is acquired through light activity, including daily chores. A better understanding of the relationship between exercise capacity and habitual PA may help us to understand why these patients are so inactive. In a subset analysis from a group of 101 inactive, midlife adults with T2DM, we explored differences in predictors of objectively-measured PA during waking hours between the most and least active participants in our sample. Physical activity (and sleep) was measured using a wrist-worn accelerometer over 6-days. The average activity count/minute during waking hours was used to create 2 groups ($n=20$ each) of the most and least active subjects. Self-reported PA was measured using the Physical Activity Survey for the Elderly (PASE) and fitness was assessed by 6-minute walk distance (6MWD). Health and demographic variables included age, hemoglobin A1c (A1C), body mass index (BMI), fatigue and neuropathic pain symptoms. Multiple logistic regression was used to determine the significant predictors of activity status. **Results:** The total sample ($n=40$) were overweight/obese ($BMI\ 33.1 \pm 5.6$), with elevated glucose levels ($A1C\ 8.0 \pm 2.3$) and low fitness ($6MWD: 466.0 \pm 112.5$ meters); they slept an average of 6.8 hours/night, were awake after sleep onset: 53.1 ± 44.8 minutes, and took 24.0 ± 21.3 minutes to fall asleep. There were no differences between groups in glucose control, BMI, symptom measures, race, or gender. The low activity group had lower fitness ($6MWD\ 410$ vs. 522 meters), lower self reported activity, higher sleep times (441 vs. 369 minutes), and took more time to fall asleep [34 vs. 12 minutes] all $p < 0.05$. Only 6MWD ($OR\ 1.016$) and self-reported PA ($OR\ 1.017$) predicted activity status ($p < .05$). Our findings suggest that subjects self-report supported our objective measures of PA, and that fitness may be an important factor in PA participation; even at the lowest levels.

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D056

10:15 AM-10:15 AM

PROBING PARTICIPANTS' BENEFITS AND BARRIERS FOR A COMMUNITY-BASED DIABETES PREVENTION AND MANAGEMENT PROGRAM

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Introduction: This research identifies individual's perceived benefits and barriers for participating in a community-based diabetes program. **Methods:** Mixed method design was used for an in-depth understanding of the benefits and barriers of program effectiveness. Using trained Health Coaches, the Diabetes Prevention and Management DPM program is implemented in twenty-two sessions over 12 months. The DPM program was modeled after the evidence-based NDPP and modified to include diabetes management sessions using the AADE7 Self-Care Behaviors framework. Trained health coaches led educational sessions and provided weekly quick and easy tips to attain the desired health-related behavior. A community-based participatory research was used to culturally tailor the curriculum. Program participants included adults with dysglycemia (pre-diabetes or had diabetes). The benefits and barriers survey gathered information related to health literacy, and benefits and barriers of program participation followed by a focus group. **Results:** Seventeen participants (70%) completed the survey (16.7% males, 66.7% with diabetes). The majority of target audience did not perceive transportation and community location as barriers to participation. Additionally, 61.1% did not report they had trouble remembering instructions provided in the program sessions. Additionally, program participation allowed the majority of participants to change their lifestyles (88.8%) and were satisfied with the program (90%). **Discussion:** The findings suggest minimal adjustments to the DPM program. The use of effective qualitative and quantitative methods to understand the community's needs, benefits, and barriers may represent a novel way of identifying and overcoming perceived benefits and barriers unique to the Appalachian culture may increase program participation.

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D057

10:15 AM-10:15 AM

TAKING THE "SELF" OUT OF "SELF MANAGEMENT": A SYSTEMATIC REVIEW OF THE EFFECTS OF NEIGHBORHOOD FACTORS ON DIABETES OUTCOMES

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Diabetes is a growing public health problem and a major cause of morbidity and mortality. Data do not support the view that individuals are able to manage diabetes on their own. An increasing number of studies have therefore looked to the context in which individuals live and neighborhoods have been shown to be particularly important. The purpose of this study was to explore and categorize how neighborhood determinants affect behavioral, clinical, mental health, and quality of life outcomes among U.S. or Canadian adults with type 2 diabetes. Using three databases, we identified 5,320 published articles between 1990 and 2015 focusing on neighborhood/ community-level factors and diabetes. Following duplicate removal, title and abstract screening, and full text review of 188 articles, we identified 37 articles for inclusion. Studies equally assessed the economic, social, and physical environments. Regarding measurement, self-report from study participants was the most common method of measuring neighborhood determinants, followed by census-derived measures. Almost all of the studies assessing the social environment and the majority of studies assessing the physical environment relied on self-report whereas census-derived measures were most commonly applied to assessment of the economic environment. Turning to relationships with diabetes outcomes, the majority of studies found associations after controlling for a variety of individual-level characteristics, (usually a combination of race, age, sex, other health complications, income / education, and duration of diabetes). Clinical and behavioral outcomes, including diabetes self-care behaviors were the most common outcomes evaluated. More associations, however, were found between the neighborhood-level determinants and the behavioral, mental health, and quality of life outcomes compared to the clinical outcomes. Thus, neighborhoods appear to affect the health of individuals with diabetes especially in the area of mental health and behavioral outcomes, but neighborhood research in diabetes includes a notable lack of objective measures of the physical and social environments.

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D058

10:15 AM-10:15 AM

TESTING THE IMPACT OF AN INTEGRATED PEER SUPPORT INTERVENTION ON DIABETES OUTCOMES IN A SAMPLE OF LOW-INCOME AFRICAN AMERICANS

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Background: Peer support is a promising strategy for improving diabetes (DM) self-management, particularly in underserved communities. However, there is a paucity of evidence on how to effectively integrate peer support programs with health care efforts. **Methods:** We developed a mobile health (mHealth) application to connect peer supporters to the health care team, creating synergy through the bidirectional exchange of information. Peer supporters were employed by a local church-based non-profit organization and were trained to provide support for diabetes self-management. 120 African Americans with poorly controlled type 2 DM (HbA1c ≥ 7.5) were recruited from a safety net clinic and randomized to community-based DM education or community-based DM education plus peer support. We assessed glycemic control, diabetes distress, and health care utilization at baseline and 6 months. We examined group, time, and group by time differences simultaneously using mixed models repeated measures analyses. The overall pre-post change in clinical characteristics was examined using the paired t-test. **Results:** Eighty-one percent (n=97) completed the 6-month assessment. Mean age was 55 years, mean HbA1c 10%; 71% were female, and 81% had a high school degree or more. For both groups, there was a statistically significant reduction in HbA1c (-0.6%, $P=0.003$) with no between group differences. The peer support group experienced a greater reduction in diabetes distress compared to the education only group (-0.6 vs -0.3, $P=0.04$) and was twice as likely to have contacts with the diabetes educator and attend local support groups. Peer supporters tracked 72 participants using the mHealth web application: 125 diabetes self-management goals were set, mostly focused on physical activity (44%) and diet (37%). Over the course of the study, 314 unique messages regarding 53 participants were sent between peer supporters and the health care team. **Conclusions:** This study provides additional evidence for the positive impact of peer support in the setting of diabetes self-management efforts. Findings also demonstrate the feasibility of integrating community-based peer support with the efforts of the health care team, achieved through the use of an mHealth web-application.

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D059

10:15 AM-10:15 AM

TYPES AND CONSEQUENCES OF FAMILY STIGMA OF TYPE 2 DIABETES

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Patients with type 2 diabetes (T2D) report being monitored and judged by family members, which may lead to internalized stigma (blame, guilt, shame) and attempts to conceal one's diabetes status and self-care efforts (hiding/delaying insulin injections, reluctance to discuss self-care adherence). Family members may also stigmatize patients' self-care efforts. Obstructive family behaviors (nagging/arguing or sabotaging self-care) contribute to less self-care adherence and worse glycemic control (A1C). Therefore, we assessed patient-reported frequency of T2D-related stigma from family members and associations with T2D-related family behaviors, psychological and behavioral consequences of stigma, and A1C. Adults with T2D (N=53) receiving care at a Federally Qualified Health Center in Nashville, TN completed items assessing diabetes-related family stigma (9 items, $\alpha=0.84$) and its consequences (5 items, $\alpha=0.87$) and the Diabetes Family Behavior Checklist-II. Most recent A1C was extracted from medical charts. We explored the frequency of stigmatizing experiences and its associations with consequences, family behaviors, and A1C. Participants were 57.3 \pm 8.7 years old, 70% African American, 96% incomes $pp=0.68$). Diabetes-related stigma from family members was associated with consequences (e.g., concealment attempts, resentment of self-care activities) that may affect glycemic control. Additional sources of stigma should be explored to further identify the effects of T2D-related stigma on diabetes outcomes.

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D060

10:15 AM-10:15 AM

WHO CHOOSES WHAT TREATMENT? BASELINE CHARACTERISTICS IN A HYBRID-PREFERENTIAL RANDOMIZED CONTROL DIABETES PREVENTION TRIAL.

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Methods: Prior to recruitment, participants were assigned to either a randomized control trial (RCT) or choice treatment arms. At baseline, participants in the choice arm selected one of two interventions: (1) an in-person class taught by a registered dietician with subsequent automated telephone calls or (2) an interactive DVD followed by automated telephone calls. Both choice interventions were analyzed for anthropometric measures, BMI, physical activity levels and socioeconomic variables using frequencies and percentage rates. Comparisons were made using ANOVA and chi-square analyses. **Results:** A total of 542 participants enrolled in the trial. Of the 215 individuals assigned to the choice treatment arm, 44% (n= 94) and 56% (n= 121) selected the class and DVD interventions, respectively. Approximately 75.8% of participants were female, 18.1% African-American with an average age of 51.7 \pm 12.5, and a BMI of 36.3 \pm 6.1. Participants who chose the DVD intervention were younger ($F=6.0$ $p=0.003$, M(DVD) 49.5 \pm 12.5, M(Class) 55.10 \pm 12.4) and carried some form of insurance ($X^2(14)$, $n=202$, p **Conclusion:** Younger, less active and insured individuals were more likely to choose a DVD based intervention. Future research is needed to better understand how these differences may impact an individual's successful participation in a diabetes prevention program.

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D061

10:15 AM-11:15 AM

A MEDIATED STRUCTURAL MODEL PREDICTING PSYCHOLOGICAL DISTRESS FROM COPING AND SOCIAL DESIRABILITY

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Individualistic (i.e., active, self-focused) coping, has been linked to negative emotions (Monnier et al., 1998). Some evidence links coping strategies to social desirability (Thomas et al., 2008), and less concern about social evaluation is associated with lower depressive and anxious symptoms (Donnahoo & Stopa, 2007; Vassilopoulos, 2008). The present study examined the relationship of coping and social desirability to psychological distress by evaluating a structural model in which individualistic coping both directly and indirectly predicts distress (indicated by dysphoria, anxiety, negative affect, and perceived stress). It was hypothesized that social desirability would mediate the relationship between individualistic coping and distress.

An ethnically diverse group of 445 students (79.1% female) participated in the study. Though the Chi-square was statistically significant, (17, $N=445$) = 40.436, $p=.001$, other fit indices indicated a good fit to the data, including GFI (.977), IFI (.985), CFI (.985), and RMSEA (.056). The model accounted for 19.3% of the variance in psychological distress. The direct path between individualistic coping and distress, significant in an unmediated model, became the only non-significant path with the inclusion of social desirability. The possibility of full mediation was thus explored.

An Aroian test indicated that the indirect effect of individualistic coping through social desirability, and ultimately to psychological distress, was significant, $z=4.794$, $p < .001$. A Freedman-Schatzkin test verified the occurrence of full mediation, $t(443)=3.608$, $p < .001$, with social desirability mediating approximately 71% of the relationship between individualistic coping and distress.

These findings suggest that, whereas individualistic coping has a significant effect on distress, this relationship is a function of individualistic coping's effect on social desirability, which has a direct impact on distress. Thus, efforts to improve coping in order to reduce distress may be enhanced by reducing concerns about image and social evaluation.

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D062

10:15 AM-11:15 AM

ANXIETY SENSITIVITY AND EPILEPSY

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Epilepsy is characterized by seizures resulting from abnormal electronic signaling in the brain. Uncontrolled epilepsy is associated with more frequent ED visits and hospitalizations (Manjunath et al., 2012) and accounts for approximately \$15.5 billion in annual healthcare costs (CDC, 2013). Anxiety psychopathology occurs in approximately half of all epilepsy patients (Beyenberg et al., 2005) and is an important contributor to uncontrolled epilepsy. Indeed, anxiety is associated with greater seizure frequency and functional impairment (Choi-Kwon et al., 2003; Kimiskidis et al., 2007). However, there has been little exploration of the role of anxiety-related cognitive risk factors in epilepsy. One promising factor to examine in this regard is anxiety sensitivity (AS), defined as the fear of arousal-related sensations. AS is associated with significant functional impairment other medical conditions where anxiety is common (e.g., asthma; Avallone et al., 2012), but has yet to be examined in epilepsy. Therefore, the aim of the current study was to examine the unique predictive ability of AS in terms of epilepsy-related functional impairment among 49 adults with physician-diagnosed epilepsy ($M_{age} = 48.53$, $SD = 15.91$; 63.3% female; 91.8% Caucasian) and no history of psychogenic non-epileptic seizures. Results indicated that, after controlling for the effects of gender, negative affect, intellectual ability, and seizure severity, AS significantly predicted overall functional impairment (22.2% variance, $\beta = -.58$, $p < .01$) as well as specific domains of: seizure control (29.1% variance, $\beta = -.61$, $p < .01$), energy (8.8% variance, $\beta = -.33$, $p < .05$), cognitive functioning (15.0% variance, $\beta = -.44$, $p < .01$), and social concerns (15.5% variance, $\beta = -.44$, $p < .05$). These results suggest individuals with epilepsy who are more fearful of arousal-related sensations experience greater impairment, particularly in terms of symptom management, cognitive functioning, and social functioning, and interventions that target AS may be beneficial for this population.

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D063

10:15 AM-11:15 AM

MEAN STREETS AND MENTAL ILLNESS: DEPRESSION AND PTSD AT CRIME HOTSPOTS

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Nearly all existing studies on the influence of violent crime on mental health outcomes have focused on neighborhood and community units of analysis. Yet a large body of research has found that there is significant street-to-street variability in crime problems. Capturing these street-level variations in crime may therefore be important for understanding the relationships between violent crime and mental health. We use 2,700 resident surveys from a sample of 325 streets in a large East Coast city with serious crime problems to assess whether street-level violent crime is related to depression and post-traumatic stress disorder (PTSD) symptomology. We compare hot spot streets (averaging more than 24 violent crime calls a year) with cool ($x=6$ violent crime calls) and cold spots ($x=1.42$ violent crime calls). More than 7 randomly selected households were surveyed from each street to gather data on self-reported PTSD and depression symptomology. We find large and significant differences between hot spots and cool spots suggesting that mental health services should be specially directed at hot spot streets. Because of selection bias into high activity crime streets we also developed a two-step process to examine whether living in hot spot streets could be seeing as leading to depression and PTSD. First, we used propensity score matching to identify comparable samples of respondents from high crime and low crime areas. Second, we used negative binomial regression to assess the influence of street-level violent crime on mental illness, incorporating the propensity scores as weights in the regression model. We find that living in a violent crime hotspot remained a significant predictor of PTSD and depression symptomology.

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D064

10:15 AM-11:15 AM

MENTAL HEALTH OF YOUTH WITH CHRONIC HEALTH CONDITIONS ACROSS ADOLESCENCE

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Many U.S. youth live with chronic health conditions, which have been linked with higher rates of depression and anxiety (Merikangas et al., 2009; Katon, 2011). However, most studies have utilized clinical samples and cross-sectional designs. We examined the prevalence of chronic health conditions and their associations with depressive and anxiety symptoms from pre-adolescence to mid-adolescence in a community sample of preadolescents. **Methods:** This longitudinal study includes 5,147 youth and their caregivers from three U.S. cities who were interviewed when the youth were aged 11, 13, and 16. Caregivers provided information on family sociodemographics, child's race/ethnicity, and child's health history. Youth reported on their depressive symptoms at ages 11, 13, and 16 and their anxiety symptoms at ages 13 and 16. Participants with and without chronic health conditions were compared on depressive and anxiety symptoms at each time point using linear regression models, adjusting for demographic covariates and sampling design. **Results:** Nearly forty four percent of youth experienced a chronic health condition. The prevalence of chronic health conditions was higher in Non-Hispanic Whites and males. Pulmonary issues were most prevalent at 37%. Having any type of chronic health condition was associated with a persistent elevation in depressive and anxiety symptoms. Experiencing multiple conditions put adolescents at even higher risk of elevated depressive and anxiety symptoms. **Conclusions:** Youth with chronic health conditions are at risk of experiencing more depressive and anxiety symptoms from preadolescence to mid-adolescence. Mental health should be monitored in children with chronic health conditions, especially as they transition into adolescence.

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CITATION AND MERITORIOUS AWARD WINNER
D065

10:15 AM-11:15 AM

NEGATIVE SOCIAL EXCHANGE, PERCEIVED STRESS AND MINDFULNESS AS CORRELATES OF RESILIENCE IN A LGBT SAMPLE

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An abundance of psychological research documents a higher level of resilience in LGBT individuals compared to the general population, but does not address the relationship between perceived stress or negative social exchange and resilience. Mindful behaviors and thoughts may account for the prevalence of higher resilience in this population, especially the act of observing without judgment. Using the Transactional Model of Stress and Coping (Lazarus & Cohen, 1977) as a theoretical framework, we hypothesize that negative social exchange (Test of Negative Social Exchange, Ruehlman & Karoly, 1991) and perceived stress (Perceived Stress Scale, Cohen & Kamarck, 1983) are negatively correlated with resilience (Connor-Davidson Resilience Scale, Connor et al., 2003) in LGBT participants, while mindful observance (Kentucky Inventory of Mindfulness Scale, Observing subscale, Baer, Smith, & Allen, 2004) is positively correlated with resilience. After obtaining IRB approval, our sample ($n=155$) was recruited from community-based organizations in the Dallas-Fort Worth metroplex. After providing informed consent and completing the survey, participants received a \$25 incentive. A hierarchical regression analysis found our model to be significant overall (Adjusted $R^2=.38$, $F(14,140)=7.814$, $p < .001$), accounting for 44% of the variance in resilience. Negative social exchange and perceived stress negatively correlate with resilience ($\beta=-.26$, $p < .001$, $\beta=-.53$, $p < .001$ respectively), and mindful observance positively correlates with resilience ($\beta=.38$, $p < .001$). Resilience often protects against negative mental health outcomes often associated with discrimination and stigma-related stress (Meyer, 2015). Results of this study suggest that clinical interventions aimed at bolstering resilience in LGBT clients should include stress-reduction techniques as well as positive reframing of negative social interactions.

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D066

10:15 AM-11:15 AM

OVERVALUATION OF SHAPE AND WEIGHT IN LATINAS WITH BINGE EATING DISORDER

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Binge eating disorder (BED), the most common eating disorder, is characterized by episodes of eating unusually large amounts of food. Binge eating (BE) behavior was traditionally thought to only affect white women. However, research shows that Latina women may exhibit higher rates of BE than other racial/ethnic minority groups.

Criticism exists over diagnostic criteria for BED and the absence of the symptom overvaluation of shape and weight (OV S/W). OV S/W refers to the excessive or exaggerated importance of S/W on self-evaluation. In White women and ethnically diverse patient samples, OV S/W is related to poorer: BED prognoses; treatment outcomes; and psychological functioning. Community samples of Latinas are absent in these studies, thus, it is unknown if OV S/W is a useful diagnostic and treatment tool in this population. This study seeks to understand OV S/W in a community sample of Latinas with BED. We hypothesized that Latinas who OV S/W would exhibit more symptomatology and poorer psychological functioning than those without OV S/W.

Fifty one Latinas recruited in Los Angeles, CA and Charlotte, NC ($M_{age} = 29.14$, $SD = 8.26$) and diagnosed with BED completed self-report questionnaires. The average OV S/W score for the sample was 4.12 ($SD = 1.16$) based on a scale from 1 (no importance of S/W) to 6 (supreme importance). Scores of ≥ 4 are clinically significant and 63% of the sample exhibited significant OV S/W suggesting that it is a common component of BED in Latinas. Those with OV S/W had more BE episodes in the previous 3 months ($M = 53.03$, $SD = 43.60$ vs. $M = 35.74$, $SD = 29.05$) and more BE distress ($M = 3.81$, $SD = .74$ vs. $M = 3.47$, $SD = .77$), however, these differences were not significant. No significant differences were found between groups in their self-reported depressive symptoms, self-esteem, and overall psychiatric symptoms.

Results of this study add to the understanding of Latinas experiences of BED and can help inform treatment for women who have different BED symptoms.

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D067

10:15 AM-11:15 AM

PERCEIVED BARRIERS AMONG TAIWANESE PARENTS OF CHILDREN WITH AUTISM SPECTRUM DISORDERS IN UNDERGOING GENETIC TESTING

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Purpose: Children with Autism Spectrum Disorders (ASD) are often diagnosed at late ages, which significantly impacts their health outcomes due to delayed intervention. To address this issue, ASD genetic testing can be used for early disease diagnosis and confirmation for children who are susceptible to developing ASD. This study examines barriers faced by Taiwanese parents in taking their affected children to be tested. **Methods:** A total of 443 parents of children with ASD completed the paper-and-pencil questionnaires in multiple cities and counties across Taiwan. **Results:** Most participants in this study were females (74.9%). Two-thirds of participants (67.0%) had below college degree education. The majority of our sample did not perceive barriers (e.g., money, transportation, and family pressures) that would prevent them from taking their affected child to be tested. Nevertheless, parents with a low socioeconomic status faced more obstacles than those with a higher socioeconomic status ($p < .05$). **Conclusions and Discussion:** Our findings suggest that most Taiwanese parents seemed to have minimal challenges from taking their children with ASD for genetic testing. Yet, socio-demographic factors might influence their perceived barriers. Such genomic-related health disparities should be addressed to attain health equity and for policy implications.

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D068

10:15 AM-11:15 AM

THE INFLUENCE OF AFFECTIVE DISORDERS ON WEIGHT LOSS IN PREDIABETIC VETERANS: VA DIABETES PREVENTION PROGRAM

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Affective disorders (AD), such as depression and anxiety, may impede weight loss. This secondary analyses investigated the influence of AD on weight loss in prediabetic Veterans ($n = 340$) randomized to the VA Diabetes Prevention Program (VA-DPP) ($n = 238$) or MOVE!® ($n = 102$), a nationally-implemented behavioral weight management program within the VA. Prediabetes was defined by prior diagnosis of impaired fasting glucose or impaired glucose tolerance in the electronic medical record problem list or A1c between 5.7-6.4% or FPG 100-125 mg/dL and no use of anti-glycemic medications, including metformin, during the past six months. VHA administrative data identified Veterans with and without AD and excluded Veterans with schizophrenia, bipolar disorder or other psychosis from the analyses. The impact of AD on weight changes over 12-months was modeled using mixed effects regression controlling for age, gender, and baseline weight. On average, Veterans with prediabetes ($n = 240$) were 59 years of age ($SD = 10.0$ years), with a BMI of 34.8 kg/m² ($SD = 5.3$ kg/m²) and A1c of 6.0% ($SD = 0.2\%$). AD was diagnosed in 150 Veterans (44%) with 109 and 41 randomized to the VA-DPP and MOVE! arms, respectively. Intervention arm by AD status over time was a significant predictor of weight loss ($p < 0.001$). At 6-months, overall weight loss was -4.3 (-5.9, -2.6) kg and -2.2 (-4.1, -0.9) kg for Veterans in VA-DPP and MOVE!, respectively. From 6- to 12-months, Veterans with AD in VA-DPP began to regain weight 0.8 (0, 1.9) kg while Veterans without AD in VA-DPP and Veterans with and without AD in MOVE! maintained their weight loss. Overall, weight loss differences between prediabetic Veterans with and without AD were -0.1 (-1.1, 0.9) kg. at 6-months and 1.0 (-0.8, 2.8) kg. at 12-months. Additional studies are warranted to determine whether AD symptoms and severity instead of diagnosis significantly influences weight loss over time.

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D069

10:15 AM-11:15 AM

THE INTERACTION OF CO-RUMINATION, COPING STRATEGIES, AND STRESS IN PREDICTING DEPRESSION AND ANXIETY

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Co-rumination, defined as a repetitive, problem-focused dialogue with close friends, has been demonstrated to be a cognitive vulnerability factor for both depression and anxiety. This risk factor has been posited as one explanation to why women have higher rates of these mental health issues than men, despite also reporting higher rates of social support. Due to co-rumination's relationship to both adaptive and maladaptive outcomes, recent research has proposed that individual's coping abilities may be important in determining whether co-rumination predicts emotional difficulties. The current study proposed that problem-solving, emotion coping, and different types of social support would interact with co-rumination in order to differentially predict depression and anxiety. Current stress level was predicted to also interact with co-rumination and coping variables to predict these outcomes. The sample consisted of 63 female undergraduate students, the majority who were 18 years old ($M = 18$), were freshmen in college (85%), and identified as Caucasian/White (67%). Participants completed measures of co-rumination, coping, stress, anxiety and depressive symptoms. Findings indicated that co-rumination, coping, and stress did not interact to predict depressive symptoms. Functions of social support individually predicted depressive symptoms. The relationship between co-rumination and anxiety varied as a function of both appraisal support ($\beta = .362$, $t = 2.085$, $p < .05$) and stress level ($\beta = -.297$, $t = -2.432$, $p < .05$). These findings demonstrated that women who are more likely to engage in co-rumination had higher levels of anxiety. Nonetheless, for women who indicated they had higher levels of stress, co-rumination appeared to be protective against anxiety. The present findings highlight the need for more understanding in this area and especially further exploration of the role of co-rumination in anxiety and in young adult women. Determining the factors that make women vulnerable to depression and anxiety is important given the high rates of clinical diagnoses in this population. Future research should explore the interplay of co-rumination, stress and coping abilities using more diverse samples in order to expand our understanding of how risk for depression and anxiety is conferred in other populations.

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D070

10:15 AM-11:15 AM

THE LIVING STORIES PROJECT: IMPLEMENTATION AND EVALUATION OF BENEFITS OF LIFE NARRATIVE INTERVIEWS ON A MEDICAL UNIT

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Reminiscence interviews focusing on successfully-met challenges have been shown to provide psychological benefits including reduced anxiety, enhanced relaxation, and improved coping self-efficacy. This project further tested the benefits of these interviews for patients on inpatient medical units and the effects on patient satisfaction. We hypothesized that by telling stories about coping with previous adversity, patients would develop greater coping self-efficacy and report greater satisfaction with their hospital experience.

Trained hospital volunteers conducted 45–60 minute interviews with patients during their inpatient stay ($n=46$; age=69.8 years \pm 10.1; 65.2% female) at a private mid-Atlantic hospital on cardiology, endocrinology, or pulmonary units. Interviews were audio recorded and reviewed by study personnel to provide interviewer feedback. Positive and negative affect and coping self-efficacy were measured pre- and post-interview, and patient satisfaction was assessed at discharge.

Paired-sample *t*-tests compared positive affect, negative affect, and coping self-efficacy pre- and post-interview. Patients reported greater positive affect post-interview ($M=35.42 \pm 8.58$) than pre-interview ($M=30.75 \pm 9.07$); $t(35) = -3.59, p = .001$. There were no differences in negative affect pre- ($M=16.57 \pm 6.50$) to post-interview ($M=15.32 \pm 7.49$); $t(36) = 1.37, p = .18$, nor coping self-efficacy pre- ($M=18.10 \pm 3.06$) to post-interview ($M=17.92 \pm 3.02$); $t(37) = 0.41, p = .68$. Regarding patient satisfaction, 81.58% of patients reported enjoying the interview, and 78.95% reported feeling uplifted by remembering positive experiences.

Preliminary results suggest this intervention has a beneficial impact on positive affect and patient satisfaction during hospitalization. While this ongoing project requires further recruitment of patients to gather a control group and a more representative sample, these early results are promising.

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D071

10:15 AM-11:15 AM

THE MEDIATING ROLE OF EMOTION REGULATION IN THE RELATIONSHIP BETWEEN MINDFULNESS AND POSTTRAUMATIC STRESS SYMPTOM SEVERITY

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Background. Mindfulness, particularly nonjudgment and awareness of present experiences are associated with less severe posttraumatic stress disorder (PTSD) symptom severity. The mechanisms by which mindfulness relates to PTSD are not clearly identified. This study sought to determine the role of emotion regulation as a mechanism mediating the effect of mindfulness on PTSD. Furthermore, this study investigated areas within emotion regulation difficulties which may have served as specific mediators between mindfulness and PTSD symptom severity. Methods and Results. 188 trauma-exposed adults completed questionnaires on mindfulness, emotion regulation, and post-traumatic stress symptom severity. Difficulties in emotion regulation mediated the relationship between both nonjudgment and awareness and PTSD symptom severity, such that greater nonjudgment and awareness was associated with fewer difficulties in emotion regulation and less severe reported PTSD symptoms. Results indicated that a lack of access to emotion regulation strategies that an individual perceives to be effective, mediated the relationship between nonjudgment and awareness and PTSD symptom severity. These results suggest that higher levels of mindfulness are associated with greater access to effective emotion regulation strategies that corresponds with lower levels of PTSD symptom severity. Conclusions. Although correlational, these novel results provide insight into a potential mechanism by which mindfulness is associated with PTSD symptom severity. Understanding how mindfulness impacts the severity of PTSD symptoms, specifically through emotion regulation strategies can help future research in tailoring mindfulness interventions in populations suffering from trauma and PTSD.

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D072

10:15 AM-11:15 AM

THE RELATIONSHIP BETWEEN MINDFULNESS, DEPRESSION, AND PAIN IN PATIENTS WITH MULTIPLE SCLEROSIS

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MS is a neurodegenerative, demyelinating disorder (Tullman, 2013) that is considered incurable, making symptom management and altered disease course of great significance (Fawcett et al., 1994). Complementary treatment options, such as mindfulness-based interventions, are important areas to explore. Mindfulness-based interventions have been found to be helpful for improving symptoms of MS (Grossman et al., 2010), specifically for decreasing depression and pain, which commonly co-occur (Arnett et al., 2008; Amtmann et al., 2015; Shahrbanian, et al., 2014). Trait mindfulness may be an important protective factor for patients with MS. The goal of the present study was to examine the relationships between trait mindfulness, depression, and pain in an MS population. 800 individuals with MS were recruited through NARCOMS and patients reported demographics, disability, trait mindfulness, pain intensity, and depression. Pearson's correlational analyses showed significant relationships between pain intensity and age ($p = .017$), years of education ($p = .001$), and disability ($p < .001$). Depression was significantly associated with years of education and disability (p 's $< .001$). These relationships were controlled for in subsequent analyses. Haye's PROCESS tool showed a significant direct effect of trait mindfulness on depression, $b = -1.42, t = -12.23, p < .001$ and on pain, $b = -0.19, t = -2.56, p = .011$. There was a significant indirect effect of trait mindfulness on depression through pain, $b = -0.15, 95\% \text{BCa CI } [-0.230, -0.081]$ and a significant indirect effect of trait mindfulness on pain through depression, $b = -0.19, 95\% \text{BCa CI } [-0.255, -0.130]$. The present study indicates that mindfulness predicts depression and pain. It also suggests that the relationship between mindfulness and depression is partially explained by pain and the relationship between mindfulness and pain is partially explained by depression. As such, interventions focused on cultivating mindfulness may be helpful for decreasing depression and pain in MS.

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D073

10:15 AM-11:15 AM

THE RELATIONSHIP BETWEEN DEPRESSION AND MULTIPLE RISK BEHAVIOR INVOLVEMENT IS MEDIATED BY DIMENSIONS OF IMPULSIVITY

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Both impulsivity and depression are associated with addictive behaviors. Across five dimensions of impulsivity [i.e., negative and positive urgency, lack of premeditation and perseverance, and sensation seeking; Cyders et al., 2007; Whiteside & Lynam, 2001], there are variations in associations with addictive and emotional disorders. For example, the relationship between depression and lifetime substance use outcomes are mediated by negative urgency (Pang et al., 2014). To our knowledge, however, the impact of impulsivity on the relationship between depression and involvement in co-morbid risk behaviors has not been explored. Using a cross-sectional sample of college students ($N=778$), we investigated relationships between impulsivity, depression, and number of risk behaviors. The majority of participants were female (68.6%) and Caucasian (64.6%), with a mean age of 21.2 ($SD=4.98$). The Compulsive Behaviors Measure (CBM; Conason et al., 2012) was used to assess 7 risk behaviors: alcohol use, drug use, cigarette smoking, shopping, gambling, sexual activity, and internet use. We classified participants as engaging in each risk behavior if they endorsed that others had complained about the behavior: 32.3% engaged in 0 risk behaviors, 23.6% engaged in 1, 17.7% engaged in 2, and 26.4% engaged in 3 or more. The UPPS-P impulsivity scale and Depression Anxiety Stress Scale [DASS-21] assessed impulsivity and depression, respectively (Cyders & Smith, 2007; Lovibond & Lovibond, 2002). Significant group differences were found between participants displaying 0, 1, 2 and 3 or more risk behaviors for depression and all UPPS-P dimensions, except sensation seeking. Bootstrapped mediation analyses (Preacher & Hayes, 2004) indicated the relationship between depression and multiple risk behaviors was partially mediated by negative urgency, positive urgency, lack of premeditation and perseverance, but not sensation seeking. The extent to which various forms of impulsivity can be modified to prevent involvement in multiple risk behaviors should be a focus of future research.

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MERITORIOUS AWARD WINNER D074 10:15 AM-11:15 AM

THE ROLE OF SKIN TONE IN WITHIN-RACE HEALTH DISPARITIES IN BLACK AMERICANS AND AN EXPLORATION OF POTENTIAL UNDERLYING MECHANISMS

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Findings from prior research investigating the association between skin tone and health status in Black Americans are mixed—some studies show that Black Americans with lighter skin tone have better physical/mental health than those with darker skin tone, while others show no association. Additionally, among the studies that have found an association between skin tone and health, very few have systematically investigated the mechanisms underlying the association. The goal of this study was two-fold: 1) to reconcile inconsistencies in previous findings; and 2) to explore multiple mechanisms through which skin tone may affect health in Black Americans. One hundred and eighteen self-identified Black Americans completed a series of measures, including physical/mental health as well as factors that may be associated with both skin tone and health (e.g., income, perceived discrimination, self-esteem), and then participated in a skin tone assessment. One likely reason for the previously mixed findings is the use of suboptimal techniques in past studies assessing skin tone. In the present study, we quantified skin tone by objectively assessing luminosity from participant faces using a spectrometer. There was a significant association between skin tone and mental health ($r = .21, p = .02$) and a marginally significant association between skin tone and physical health ($r = .16, p = .09$), indicating that Black Americans with lighter skin tone tend to be healthier than those with darker skin tone. Furthermore, a series of mediation analyses using bootstrapping technique provided preliminary results suggesting that the association between skin tone and mental health was mediated by both self-esteem and perceived discrimination independently, whereas the association between skin tone and physical health was mediated by self-esteem. These results offer further insight into the role of skin tone in within-race health disparities and may aid in the development of potential interventions as these mediators found in this study are relatively malleable psychological constructs.

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D075 10:15 AM-11:15 AM

THE UTILITY OF THE HEALTH ACTION PROCESS APPROACH MODEL FOR PREDICTING PHYSICAL ACTIVITY BEHAVIOUR IN SCHIZOPHRENIA

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Research is needed to develop evidence-based behavioral interventions for preventing and treating obesity that are specific to the schizophrenia population. This study is the precursor to such intervention research where we examined the utility of the social cognitions outlined within the Health Action Process Approach (HAPA) model for predicting moderate-to-vigorous physical activity (MVPA) intentions and behaviour in the schizophrenia population. A prospective correlational design (baseline [T1], week 2 [T2], and week 4 [T3]) was used to examine the HAPA constructs and MVPA behaviour across a sample of 100 adults with schizophrenia ($M_{age} = 41.56 \text{ years} \pm 11.75$; $M_{BMI} = 31.21 \text{ kg/m}^2 \pm 7.85$; 60% male). Two hierarchical regression analyses were conducted controlling for age, BMI and previous MVPA. In the first regression, intentions at T1 were regressed onto the T1 premotivational HAPA constructs (risk perception, affective attitudes, task self-efficacy), and social support; MVPA status (meeting vs. not meeting the guidelines) assessed via accelerometry at T3 was regressed onto T1 social support and intentions followed by T2 action and coping planning, and maintenance self-efficacy in the second analysis. Overall, the premotivational and social support variables accounted for 40% of the variance in intentions, with affective attitudes ($\beta = .34, p < .01$) and task self-efficacy ($\beta = .30, p < .01$) exhibiting significant relationships. For MVPA status, the model as a whole explained between 25% and 33% of the variance, with maintenance self-efficacy exhibiting the strongest relationship ($OR = 1.69, p = .06$). These findings provide partial support for the utility of the HAPA model in predicting MVPA intentions and, to a lesser extent, behaviour. Future interventions should target affective attitudes and self-efficacy to enhance behavioural intentions and MVPA within the schizophrenia population.

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D076 10:15 AM-11:15 AM

TRENDS OF DEPRESSION ACROSS REGIONS IN THE UNITED STATES

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Introduction Depression is a major health risk factor among the older population, related to significant increases in health care expenditures. Past research has shown significant variations in clinical conditions. However, there has not been any study examining depressive symptoms across regions. The purpose of this study was to investigate the prevalence of the older population experiencing depressive symptoms across different regions in the United States. Methods Data were obtained from the 2011-2014 National Health and Aging Trends Study, a longitudinal study that included a nationally representative sample of individuals aged 65 or older. Regions of residence were categorized by Northeast, Midwest, South and West census regions. A composite score of 3 or greater from the Personal Health Questionnaire-2 was used to indicate the presence of depressive symptoms. The comparison of proportion having depression across regions were analyzed using chi-square tests. Results A total of 3,863 participants over the age of 65 were included in this study. Of those, 1,583 (41 %) were male and 2,757 (71.4%) were White. Majority of the participants (22.1%, $n=852$) were between 70 and 74 years old at the baseline year. Disparities in the prevalence of depressive symptoms were observed across different regions in the United States. From 2011 to 2014, depressive symptoms significantly declined in the South ($p < 0.05$) and significantly increased in the Midwest and West ($p < .05$). Conclusion Understanding regional variations of depressive symptoms can inform the public regarding resource allocation and treatment models. By showing which areas of the US are more prone to depressive symptoms, mental health programs can be targeted appropriately.

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D077 10:15 AM-11:15 AM

BYTE BY BITE: USABILITY OF A BITE-TRACKING DEVICE FOR IMPROVED DIETARY SELF-MONITORING

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Background: Dietary self-monitoring methods should aim to decrease user burden to encourage long-term self-monitoring and associated weight loss. **Methods:** Overweight adults ($n=12$) were recruited for a 4-week trial to examine the usability of the Bite Counter for dietary self-monitoring. Participants received behavior change information along with a bites/day goal, and used the counter to track their diet by measuring bites taken at each eating event. Changes in weight, Eating Behavior Inventory (EBI), and Weight Efficacy Lifestyle Questionnaire (WEL-Q) were assessed. Paired sample t-tests were used to examine differences in pre- to post-test scores on EBI/WEL-Q. Items measuring the usability of the counter and information processing (user control, cognitive load, and novelty) were assessed on the final survey. **Results:** Participants lost a mean of 1.2 ± 1.3 kgs. Participants' EBI scores increased from baseline (77.2 ± 9.2) to follow-up ($90.3 \pm 8.8, p < 0.01$) indicating a significant increase in positive weight management behaviors. From baseline to follow-up, WEL-Q subscales showed increases for resisting overeating when in physical discomfort (23.8 ± 5.3 to $26.1 \pm 6.7, p < 0.05$) and resisting overeating while engaging in positive activities (24.1 ± 6.3 to $26.5 \pm 6.9, p < 0.01$). Participants found the Bite Counter easy to use (5.4 ± 1.6), rated the intervention as novel (12.6 ± 1.8), reported low levels of cognitive load (12.6 ± 1.4), indicating little mental effort used to process the information, and high levels of user control (16.8 ± 4.7), indicating a perception of being able to control the content of the information received. **Conclusions:** Use of the Bite Counter was significantly associated with eating behavior conducive to weight management and increased self-efficacy in resisting overeating when in physical discomfort and doing positive activities. Participants found the counter novel and easy to use. Future studies should examine use of the counter with a larger sample over time.

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D078

10:15 AM-11:15 AM

FOOD CHOICES MADE AT FAST-FOOD RESTAURANTS ARE ASSOCIATED WITH PATRON WEIGHT STATUS

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Background: Frequent fast-food consumption is associated with poor health outcomes, including weight gain and obesity. This is primarily due to the calorically dense, nutrition-poor offerings at these types of eating establishments. Furthermore, research shows that the majority of restaurant patrons base purchasing decisions on taste, price and habit, regardless of calorie or nutrient content. This cross-sectional analysis examines if fast-food purchasing behaviors differ among obese, overweight, and not overweight/obese (NOWOB) individuals. **Methods:** Customer receipts and survey data were collected from 329 participants using street-intercept survey methodology at 29 fast-food locations in low- and high-income neighborhoods throughout the Phoenix metropolitan area. Multivariate regression analyses examined the association between weight status and fast-food purchases. **Results:** After adjusting for demographic characteristics, obese individuals purchased 84 more total calories than NOWOB ($p=0.033$). Total beverage and entrée calories did not differ by weight status; however, obese individuals purchased 71 more side calories than NOWOB individuals ($p=0.007$). Additionally, obese individuals had significantly higher odds of purchasing unhealthy sides ($OR=2.4$, $p=0.006$) and marginally greater odds of purchasing higher calorie entrées ($OR=1.85$, $p=0.055$) compared to NOWOB. Further, overweight individuals had less than half the odds of using calorie menu labels compared to NOWOB ($OR=0.41$, $p=0.038$). **Conclusion:** Food choices made at fast-food restaurants vary by patron weight status. Behavior interventions aimed at reducing caloric consumption at fast-food restaurants should target specific purchase behaviors such as choosing healthier sides, not ordering sides and promoting the use of calorie menu labels among customers, particularly those most at risk for poor health outcomes.

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D079

10:15 AM-11:15 AM

I'M A JUNK FOOD JUNKIE: ASSOCIATION OF FOOD REWARD SENSITIVITY WITH INTAKE OF UNHEALTHY FOODS IN YOUNG ADULTS

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Food reward sensitivity, the neurologic response to food stimuli, may influence individual susceptibility to an environment replete with foods of minimal nutritional value. These foods, containing artificial combinations of added sugar, fat, and/or salt, may enhance activation of brain reward circuitry, and may thus lead to preferential selection of these foods over more natural alternatives. This study examined associations of food reward sensitivity with eating behaviors. The NEXT Generation Health Study is a nationally representative sample of US adolescents ($n=2785$) enrolled in 10th grade during the 2009-2010 school year and assessed annually. Data for this study are from year 5 ($n=2202$), during which the Power of Food Scale (PFS), a self-report measure of food reward sensitivity was administered. Participants self-reported weekly intake frequency of fast food and daily intake of 100% fruit juice, fruit, green vegetables, orange vegetables, beans, whole grains, soda (not diet), sweet/salty snacks, nuts/seeds, processed meats, fish, dairy products, and cheesy foods (e.g., quesadillas, lasagna). Multiple linear regression estimated associations of PFS with each of the eating behaviors adjusting for sex, age, height, weight, physical activity, family affluence, race, and parent education. Higher PFS was associated with more frequent intake of fast food (β -linearized $SE=25\pm05$, $p=.03$), sweet/salty snacks (18 ± 04 , $p=.001$), processed meats (10 ± 04 , $p=.03$), and cheesy foods (13 ± 05 , $p=.02$), but was not associated with fruit or juice, green or orange vegetables, beans, whole grains, nuts/seeds, fish, or dairy products. In this nationally-representative sample of young adults, food reward sensitivity was associated with greater intake of foods of minimal nutritional value, but was not associated with intake of more health-promoting foods, suggesting food reward sensitivity may lead to preferential intake of unhealthful foods.

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CITATION AND MERITORIOUS AWARD WINNER
D080 10:15 AM-11:15 AM

INCENTIVE INTERVENTIONS: CHANGING HEALTH BEHAVIOR AND ENHANCING, NOT UNDERMINING, MOTIVATIONAL FACTORS

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Incentives have gained recent popularity as a means to motivate health behavior change, and empirical evidence demonstrates their efficacy in diverse health domains. However, little research has explored potential psychological mechanisms underlying incentive-induced behavior change and maintenance, and some theorists predict that incentives could undermine intrinsic motivation to engage in behavior.

The present study employed a brief 3-arm randomized controlled trial to examine how incentive interventions affect psychological factors thought to underlie behavior maintenance. Participants ($n=60$) received daily rewards, delayed rewards, or no rewards for their fruit and vegetable (FV) consumption during a 3-week intervention period. Behavior engagement and theoretically-informed psychological factors were measured at baseline, at the end of the intervention, and two weeks following the cessation of the intervention.

Participants in the daily reward condition demonstrated the greatest increase in FV consumption during the intervention and at the follow-up [$F(2, 55) = 4.57$, $p = .02$]. Additionally, intrinsic motivation to consume FV increased over time [$F(1, 57) = 4.62$, $p = .04$] but did not differ between groups [$F(2, 57) = 0.64$, $p = .532$], suggesting that incentives did not undermine intrinsic motivation. Moreover, increases in FV consumption during the intervention period were associated with increases in attitudes [$t(55) = 2.68$, $p = .01$] and self efficacy [$t(55) = 3.68$, $p = .001$]. In turn, these increases predicted behavior maintenance at follow-up (attitudes: $t(55) = 2.56$, $p = .03$; self efficacy: $t(55) = 2.06$, $p = .04$).

In sum, this study demonstrates that monetary incentives can alter health behavior engagement without decrements in intrinsic motivation or other relevant cognitive and motivational constructs. Further, it suggests that incentives may serve as a mechanism by which to initiate behavior change but that increased experience with the behavior may then lead to enhancements in key psychological constructs, which can potentiate behavior maintenance following the cessation of incentives.

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D081

10:15 AM-11:15 AM

NUTRITION- AND DIET-RELATED STAGES OF CHANGE, BARRIERS, AND FRUIT AND VEGETABLE CONSUMPTION IN COLOMBIA

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In a representative sample of 1500 adults from the 8 major Colombian cities, we examined nutrition- and diet-related stages of change, barriers to fruit and vegetable consumption, actual fruit and vegetable consumption, and variation by demographics.

For consuming fruits and vegetables (F&V) at recommended levels, more people were in the pre-contemplation (36.5%) and contemplation stages (38.3%). For low fat diet adherence, the most people were in the pre-contemplative stage (38.5%). For both topics there were significant differences between sex ($ps < .001$), with more men in the pre-contemplative and more women in the preparation / action stages. Age was related with both topics ($ps \leq .001$), older people were in later stages. Area-based socioeconomic status (strata) was related to both ($ps < .001$): more people in higher stratas were in the maintenance stage.

Although few barriers to F&V consumption were reported, the most frequent was F&V being too expensive (35.3%). This was related to strata and education ($ps < .001$): lower strata and less education were related to more reports of this barrier.

The average F&V consumed was 2.20 servings/day ($SE = 0.07$), 12.2% consumed 5 or more per day. F&V consumption increased with each subsequent stage of change of F&V consumption ($ps \leq .011$). There was a difference in consumption by strata, $F(5, 1494) = 5.85$, $p < .001$: overall those in the lowest two stratas consumed less than those in higher stratas. There was an interaction between the two, $F(15, 1476) = 2.62$, $p = .001$: those in the lowest strata in the maintenance stage consumed the most F&V overall. There was a relationship between consumption and number of barriers, $F(4, 1495) = 6.98$, $p < .001$: those with fewer barriers seemed to consume more.

Our results point to a need to raise awareness and knowledge of the importance of F&V consumption and low fat diets. For better efficacy, interventions could differ in their processes of change for sex, age, and socioeconomic status by for example focusing on stimulus control for older people, keeping them in the later stages.

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D082

10:15 AM-11:15 AM

PARENT AND ADOLESCENT DIETARY PATTERNS USING DIETARY SCREEN-ER ITEMS FROM THE FLASHE SURVEY

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The National Cancer Institute's Family Life, Activity, Sun, Health, and Eating (FLASHE) Survey, a forthcoming public-use data resource, utilized a dietary screener to assess the frequency of intake of foods and beverages that may increase obesity and cancer risk among a sample of parent/adolescent dyads. The purpose of this study was to examine adherence to data-driven dietary patterns in a sample of 1671 parents (aged 18+) and their adolescent aged 12–17y (1563). Dietary patterns were derived from principal component analyses (PCA). Two patterns explained 31% and 33% of total variance, for parents and adolescents, respectively. Patterns were interpreted as more healthful, containing almost exclusively "beneficial" high loading items (≥ 0.20) (e.g. fruit, non-sugary cereal, water, etc) or less healthful, containing almost exclusively "detrimental" high loading items (≥ 0.20) (e.g. chips, sugary cereal, energy drinks, etc). Factor scores were the product of the variable-level factor loading multiplied by daily frequency of intake. Pattern scores were then ranked in quartiles; those in the fourth quartile were considered to adhere to a particular pattern. Parents who adhered to the more healthful pattern ($n = 357$) were significantly more likely to be at a healthy weight (46%, $p < .001$), while those who adhered to the less healthful pattern ($n = 357$) were significantly more likely to be non-white (36%, $p = 0.005$) and male (41%, $p < .001$). Adolescents who adhered to the more healthful pattern ($n = 331$) were significantly more likely to be female (56%, $p = 0.020$) and to be at a healthy weight (73%, $p = 0.033$), while those who adhered to the less healthful pattern ($n = 331$) were significantly more likely to be non-white (43%, $p = 0.003$), and male (57%, $p = 0.003$). This study is among the first to use PCA to determine dietary patterns from a short dietary screener used in parent/adolescent dyads. Because foods consumed in the whole diet may work symbiotically and produce cumulative effects on obesity and cancer risk, it is important to consider patterns when observing dietary intake. Future research will evaluate dietary patterns from a dyadic perspective.

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D083

10:15 AM-11:15 AM

PREDICTING FRUIT AND VEGETABLE INTAKE IN ASIAN AMERICAN & PACIFIC ISLANDER ADOLESCENTS VIA KNOWLEDGE, SELF-EFFICACY AND STAGE

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PURPOSE: Asian American and Pacific Islanders (AAPI) are the fastest growing minority group. There is limited research on AAPI adolescents' fruit and vegetable (FV) consumption. Less than 20% of the AAPI adolescents meet the United States Department of Agriculture (USDA) recommendation of 4.5 cups of fruit and vegetables (FV) per day, indicating the need for understanding mechanisms in order to promote FV consumption in this population. The purpose of this study was to evaluate if AAPI adolescents' nutrition knowledge, FV self-efficacy and stage of change can predict FV consumption. **METHODS:** A total of 163 Waipahu High School students (9 classes) in grades 9th through 11th participated in this cross-sectional study (82.2% female; 69.9% Filipino; 20.9% other Asian). The questionnaire assessed FV consumption, nutrition knowledge, FV self-efficacy and stage of change. The questionnaire was completed in class with study staff present to answer questions. **RESULTS:** Mean FV consumption was 2.59 ($sd=2.33$) per day; average FV stage of change was preparation; mean FV self-efficacy was 2.94 ($sd=.70$); and mean nutrition knowledge was 3.61 ($sd=.56$). The regression for FV consumption was significant ($F(3, 155)=3.67, p.05$). The remaining variables were regressed on FV stage of change ($F(2, 156)=3.63, p=.03$). FV self-efficacy significantly predicted FV stage of change ($\beta=0.29, p=.001$) but FV knowledge did not ($p>.05$). Lastly, nutrition knowledge did not significantly predict FV self-efficacy ($F(1, 157)=0.08, p>.05$). **CONCLUSION:** This study supports evidence that FV stages of change can predict FV consumption and FV self-efficacy can predict FV stages of change in AAPI adolescents. Therefore interventions promoting FV consumption in AAPI adolescents should focus on increasing FV self-efficacy in order to help stage progression, which will lead to increased FV consumption.

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D084

10:15 AM-11:15 AM

PURCHASING PATTERNS AT A NEW ENGLAND SUPERMARKET CHAIN AND IMPLICATIONS FOR THE SUPPLEMENTAL NUTRITION ASSISTANCE PROGRAM

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Introduction: There are currently no incentives to purchase healthier foods or limitations on purchasing unhealthy foods with Supplemental Nutrition Assistance Program (SNAP) benefits. Restructuring SNAP has been identified as a key opportunity to reduce both childhood hunger and obesity in the US, and recent debate has focused on whether the program should place constraints on allowable purchases and/or otherwise incentivize healthy purchases. The USDA does not currently release SNAP recipients' purchasing data by product and/or retailer type, thus there is a need for direct analysis of grocery sales data to establish shopping patterns of recipients and inform pertinent interventions with respect to diet quality. **Methods:** Two years of sales data from a regional supermarket chain in New England have been cleaned and categorized into 34 predetermined food categories (e.g. fruit, vegetables, sugary drinks). Data will be analyzed using multivariate analysis of variance to consider whether there is an association between SNAP status and dietary outcomes of interest. Models will be adjusted for covariates (total amount spent, season) and additionally stratified by state. **Results:** The sales dataset is comprised of 129, 101 unique UPCs, and represents 283,849,806 unique shopping trips/transactions (of which 13.6 million were SNAP transactions). Notable differences were observed in the relative ranking of food categories (% of sales) by SNAP status, including the % of sales from sugary drinks (4.99% vs. 2.81% for SNAP vs. non-SNAP shoppers), red meat (15.75% vs. 9.21%), fruits (6.34% vs. 8.19%) and vegetables (6.15% vs. 7.60%). **Conclusions:** Findings will help to establish current shopping patterns of SNAP recipients vs. non-recipients, and have implications for potential modifications to the program.

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D085

10:15 AM-11:15 AM

REWARD SENSITIVITY PREDICTS CHILDREN'S SELECTIVE EXPOSURE TO UNHEALTHY FOOD ADVERTISEMENT AND CONSEQUENT DIET QUALITY

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Literatures suggest that children who are sensitive to reward are particularly vulnerable to an obesogenic environment. This study proposes an account for the vulnerability of high reward sensitivity children, that is, their attention may be biased to unhealthy food advertisement in surrounding environment, and such selective exposure leads to a maladaptive eating pattern.

The parents of 196 children (6-12 yrs) reported their children's eating pattern through a web-based food frequency questionnaire, based on which, the macronutrient content of children's daily diet was calculated. The parents answered questions regarding their children's healthy and unhealthy food advertisement viewing behavior (in frequency), which covers a full spectrum of media from TV, outdoor, to online content, children's reward sensitivity which was assessed by BIS/BAS scales adapted for children.

Using structural equation modeling, this study explored possible relationships among children's reward sensitivity, food advertisement exposure, and eating pattern. The results showed a significant direct effect of reward sensitivity on unhealthy food advertisement exposure; children with higher reward sensitivity tend to view more unhealthy food advertisement (but not healthy food advertisement) comparing to children with lower reward sensitivity. An increased unhealthy food advertisement exposure significantly predicts children's diet quality, as reflected in increased fat (fat/protein ratio) and decreased fruit and vegetable consumption. And bootstrapping technique revealed a mediating effect of unhealthy food exposure between reward sensitivity and diet quality. This study highlights that high reward sensitivity children may selectively pay attention to rewarding food cues in their daily life, which may at least partly account for their vulnerability to the obesogenic environment.

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D086

10:15 AM-11:15 AM

THEORY OF PLANNED BEHAVIOR & IMPLEMENTATION INTENTIONS TO IMPROVE FRUIT & VEGETABLE INTAKE IN WOMEN OF LOW SOCIOECONOMIC STATUS

Michele A. DeBiasse, PhD Candidate, RDN1, Deborah Bowen, PhD2, Sherry Pagoto, PhD3, Lisa Quintiliani, PhD4

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Fruit and vegetable intake (FVI) is an important modifiable risk factor for chronic diseases. Low socioeconomic status (SES) populations demonstrate lower FVI and higher rates of chronic diseases than higher SES groups. Theory-based models and interventions like the Theory of Planned Behavior (TPB) and implementation intentions (II) have been used effectively to explain and influence health behaviors, including FVI, in middle class populations, but have not been evaluated in exclusively low SES populations. This research investigates the efficacy, feasibility and acceptability of the TPB and an II intervention to explain and influence FVI in women of low SES. Participants: Adult female residents of Boston Public Housing developments. TPB constructs and FVI were measured via survey. We conducted pilot and feasibility randomized controlled and one-group II intervention studies ($n=31$) to promote FVI and a qualitative analysis of semi-structured interview data ($n=8$) to evaluate intervention efficacy, feasibility and acceptability. Intervention and control groups did not increase FVI (intervention + 0.26 servings per day, $t(17)=0.73, p=0.476$; control + 0.50 servings per day, $t(9)=1.07, p=0.311$) and no difference in FVI between groups ($t(26)=0.40, p=0.6934$). Feasibility goals were met for randomization (100% vs $\geq 80\%$), retention (93.5% vs $\geq 70\%$), missing data (2% vs $< 10\%$), days to follow up (mean=69.27 \pm 42.67 vs < 180 days), and not for recruitment (38.1% vs $\geq 70\%$). Interviewed participants characterized the intervention as “beneficial”, and reported autonomy, positive regard and having support facilitated dietary behavior change. Overall, our analysis of an II intervention suggests that simply intervening on TPB variables may not be enough to change dietary behavior and, although acceptable, participants reported constructs not included in the TPB as facilitators of dietary behavior change. Future research is needed to determine how/if the TPB and II can be used as a theoretical foundation and intervention to describe and influence dietary behavior change in women of low SES.

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D087

10:15 AM-11:15 AM

USING 24-HOUR DIETARY RECALL DATA TO ESTIMATE FRUIT AND VEGETABLE INTAKE FROM A DIETARY SCREENER FROM A NATIONAL SURVEY

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The National Cancer Institute's Family Life, Activity, Sun, Health, and Eating (FLASHE) Survey – a forthcoming public-use data resource – utilized a dietary screener to assess the frequency of intake of certain fruits and vegetables (FV) in parents/adolescent dyads. The purpose of this study was to utilize the 2009–2010 National Health and Nutrition Examination Survey (NHANES) SAS program, which calibrates screener data from 24 hour dietary recall data to estimate FV cup equivalent intake. The sample consisted of 1585 parents (aged 18+) and their adolescent aged 12–17y ($n=1476$). Steps to estimate daily intake of cup equivalents of FV included 1) selecting FLASHE dietary screener items to be used in the algorithm (100% fruit juice, fruit, green salad, fried potatoes, other non-fried potatoes, other non-fried vegetables, cooked beans, and pizza), 2) converting frequency responses to daily intake, 3) categorizing parents and adolescents by age and sex, and 4) estimating intake using the algorithm E (FV cup equivalents) = B_0 ($N_{FG1P1} + N_{FG2P2} + \dots + N_{FG8P8}$). The B_0 regression coefficient was generated from the NHANES 2009–2010 two-day 24 hour recall dataset. Average FV consumption was 2.9 ± 1.2 and 2.4 ± 1.1 cup equivalents per day for parents and adolescents, respectively. These results align with data from the 2009–2010 NHANES, where adults consumed an average of 2.7 ± 0.7 FV cup equivalents per day while adolescents consumed an average of 2.1 ± 0.2 cup equivalents per day. These findings support the use of the 2009–2010 NHANES calibrated SAS programs to derive estimated FV intake in extant studies such as FLASHE and provide useful measures for future FLASHE data users.

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D088

10:15 AM-11:15 AM

WHAT MODERATES THE ASSOCIATIONS BETWEEN PHYSICAL ACTIVITY AND HEALTHY DIET?: A PRELIMINARY STUDY

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In general, health promoting behaviors are clustered together (Dodd et al., 2010): Empirical studies have shown that physical activity (PA) is associated with more fruit/vegetable (FV) intake (Keller et al., 2008) and less fat intake (Jakicic et al., 2002). However, relationships between PA and these eating behaviors are only small-to-moderate. It is important to better understand the relationship between PA and dietary behaviors for future intervention development to promote multiple health behaviors. We investigated moderators of the relationships between PA and two eating behaviors, FV and fat intake. 145 university students (age 17–21) completed a cross-sectional online survey. Most of them were White/Caucasian (99%) and female (79%). We assessed PA (Godin Leisure Time Questionnaire; GLTQ; Godin & Shephard, 1997), FV (NIH FV screener) and fat intake (NCI Quick Food Scan), distress (Depression Anxiety Stress Scales; Lovibond & Lovibond, 1995), difficulties in emotion regulation (Difficulties in Emotion Regulation; Gratz & Romer, 2004), and BMI. About 43% of participants reported both suggested PA (moderate-to-vigorous PA score ≥ 24 in GLTQ) and enough FV intake (more than 5 servings). Only about 23% reported enough PA and $< 30\%$ fat intake. PA had a small positive relationship with FV intake ($r=.21, p=.01$); but PA was not associated with fat intake ($r=-.13, p>.05$). The PA-FV intake relationship was moderated by gender ($\beta=.56, p<.01$), distress ($\beta=.47, p=.01$), emotion regulation ($\beta=.79, p=.01$), and BMI ($\beta=.40, p=.01$): Male students, those who reported less distress, those who better regulated their emotion, and those who were overweight/obese reported stronger PA-FV intake associations than their counterparts. None of these variables moderated the PA-fat intake relationship. Taken together, for women, those who have high distress, those who do not regulate their emotions well, and for those with BMI in the normal range, for whom an increase in PA may not mean an increase in FV intake. Future studies should investigate how to help students engage in physical activity and healthy dietary behaviors simultaneously.

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D089

10:15 AM-11:15 AM

WISE CHOICES: A COMMUNITY-BASED HEALTH PROMOTION INTERVENTION FOR OLDER ADULTS

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Poor lifestyle habits undermine the health and quality of life of older adults, but little attention has been given to disseminating evidence-based health promotion interventions to older adults in the community. The purpose of this 12-week, community-based intervention was to promote lifestyle behavior changes among racially-diverse older adults from socioeconomically disadvantaged neighborhoods. We implemented a group intervention for healthy eating and physical activity at 6 city-run, senior community centers and examined the effect on eating behaviors (fruit and vegetable intake), physical activity (daily steps, lifestyle activity), physiologic variables (weight, blood pressure, functional mobility), and health-related quality of life (HRQoL). Eating behavior, lifestyle activity and HRQoL were self-reported; step counts were measured via pedometer; and physiologic variables were objectively measured. The sample ($N=118$, mean age=72 \pm 9 yrs. old) was primarily female (88%), married or widowed (56%), with an annual household income of $< \$20,000$ (59%); 44% of participants were Black. Retention of participants was high, with 85% completing the post-intervention assessment. Daily servings of fruits and vegetables significantly increased (19.4% and 13.4% consumed 3 or more servings at baseline, respectively, compared to 27% and 20.1% at 12 weeks, $ps < .001$). Mixed-effects linear regression modeling revealed a significant increase in number of city blocks walked ($M\Delta = +5.9, SD=15.1, p<.001$), daily pedometer steps ($M\Delta = +960, SD=2,145, p<.001$), functional mobility on the Timed-Up-And-Go test ($M\Delta = -1.5$ seconds, $SD=3.9, p<.001$), and the physical functioning and bodily pain subscales of the MOS SF-12 ($M\Delta = +5.5, SD=27.5, p=.02$, and $M\Delta = -5.2, SD=30.1, p=.01$, respectively). These results suggest a community-based, behavioral intervention can improve fruit and vegetable intake, physical activity, functional mobility and aspects of HRQoL among racially-diverse older adults from disadvantaged neighborhoods. Pragmatic studies are needed to further evaluate the intervention in a broader range of real-life community settings.

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D090

10:15 AM-11:15 AM

PUTTING THINGS IN CONTEXT: FERTILITY-RELATED QUALITY OF LIFE AND CULTURAL BELIEFS IN CHINESE WOMEN UNDERGOING IVF TREATMENT

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Past studies have found IVF and its negative outcome could be stressful and affect QoL among infertile women. The FertiQoL scale was developed by Boivin her team (2011) to measure fertility related quality of life, and had been validated with Western samples of people experiencing fertility problems. Little is known about the fertility related quality of life in Chinese population, where the society's collective nature attribute different importance to childbearing in the family. This study attempted to create a quality of life snapshot of Chinese women undergoing infertility treatments, and explore the role of cultural beliefs of childbearing in relation to the different aspects of life.

A cross-sectional survey consisting of FertiQoL, questions about Chinese cultural beliefs of childbearing, and demographic characteristics was conducted from February to November 2014 in a university-affiliated hospital. Participants were recruited through individual invitation at the assisted reproduction clinic. A total of 465 patients were approached after their first IVF cycle was found unsuccessful. Of them, 198 (response rate: 42.58%) have completed the self-administered questionnaires. The mean age of participants was 37.0 (SD = 3.5), duration of marriage was 7.4 years (3.7), and duration of infertility was 4.1 years. The majority of them received tertiary education and had full-time job. Mean scores of Total FertiQoL, Core FertiQoL, and Treatment FertiQoL were 63.4 (12.5), 64.1 (14.5), and 61.9 (13.2). Both Total and Core scores were higher than that from a Western sample reported by Boivin et al (2011) ($t = 8.10$ and 8.36 , $p < .01$) while no difference was found in Treatment score ($t = 1.41$, n.s.). Total and Core FertiQoL were found to be negatively associated with identification with Chinese cultural beliefs about childbearing ($r = -.446$, $p < .05$). This study sheds light on the quality of life of Chinese infertile women after unsuccessful IVF treatment. Identification with Chinese beliefs of childbearing, which emphasizes the patrilineal culture, was associated with worse QoL. The findings underline the importance of cultural sensitivity in addressing fertility-related issues in order to better facilitate psychosocial support at the clinic.

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D091

10:15 AM-11:15 AM

RELATIONSHIPS BETWEEN SALIVARY CORTISOL, SYMPTOM SEVERITY AND LIFESTYLE FACTORS IN CHRONIC SCHIZOPHRENIC PATIENTS

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Background: This study examined the relationships between diurnal cortisol patterns and perceived stress, physical activity, symptom severity, and daily functioning in patients with chronic schizophrenia. **Methods:** The participants were 149 Chinese patients with chronic schizophrenia. Diagnostic assessments of body-mass index (BMI), psychotic symptoms and neurological deficits were made, and self-reported measures of physical activity, perceived stress, and daily functioning were recorded. Diurnal cortisol slope was derived from the salivary cortisol measures collected upon waking, 30 min after waking, before lunch, and before bedtime. A path modeling analysis was performed to investigate the relationships of the diurnal cortisol slope and its antecedents and outcomes. **Results:** Higher levels of perceived stress, higher BMI, and less physical activity predicted lower waking cortisol and flattened diurnal cortisol slopes. Controlling for age and gender, flattened diurnal cortisol slopes were significantly associated with higher levels of depressive symptoms, cognitive symptoms, motor deficit, and poorer daily functioning. **Discussions:** The results support the neural diathesis–stress model and highlight the importance of the hypothalamic–pituitary–adrenal axis in mediating the effects of stress and symptom severity among patients with chronic schizophrenia. The practical implications of the findings are discussed.

Learning Objectives:

1. Communicate the neural diathesis–stress model and highlight the importance of the hypothalamic–pituitary–adrenal axis
2. Describe the associations between lifestyle factors and diurnal cortisol patterns in schizophrenic patients

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D092

10:15 AM-11:15 AM

RELATIONSHIPS OF LEGAL MATRIMONY WITH SELF-REPORTED HEALTH-WELLBEING & HEALTHCARE ACCESS AMONG LESBIAN & GAY CALIFORNIANS

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Purpose. Numerous health benefits of heterosexual marriage are well known. Lack of representative samples, however, made it difficult to test these benefits among same-sex spouses as marriage equality expanded rapidly across the United States. In 2009, the California Health Interview Survey (CHIS) added questions on legal same-sex marital and/or partnered status. We analyzed CHIS samples from 2009 and 2011 to determine how legally-married/partnered status relates to health insurance coverage, health services access and usage, and general health. **Methods.** We used logistic regression to test each health-related variable by marital status by sexual identity and gender, adjusting for socio-demographic covariates. **Results.** More benefits from same-sex marriage were observed for gay men than lesbians after controlling for socio-economic factors. Married lesbians were significantly more likely to have been insured all of the past 12 months than single, non-married lesbians. Married gay men were significantly more likely to have been insured, visited their doctor in past 12 months and less likely to delay care than single gay men. Compared to heterosexual women, married lesbians reported poorer health and greater lack of health insurance coverage, though married/partnered lesbians fared better than single counterparts. Compared to heterosexual men, legally married/partnered gay men were significantly more likely to have been insured all of the past 12 months, have a usual source of care, and have visited a doctor in the past year. **Conclusion.** Despite the small sample size in this unique dataset, we found some marriage-related health benefits for lesbians and gays. Though married lesbians did not fare as well as married heterosexual women, married gay men fared better than married heterosexual men. As legal same-sex marriages increase in California and the U.S., researchers should have larger samples on which to conduct more comprehensive effects of legal same-sex marriage on health status.

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D093

10:15 AM-11:15 AM

SKILLS-BASED GROUP INTERVENTION FOR YOUTH WITH POSTURAL ORTHOSTATIC TACHYCARDIA SYNDROME (POTS)

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Introduction: Nine youth with Postural Orthostatic Tachycardia Syndrome (POTS) and their parents participated in a cognitive behavioral therapy (CBT) group intervention that included problem solving, social skills training, mindfulness, parent education, and communication skills training. Similar group treatments have been highly successful in other hospitals throughout the United States, showing high participant satisfaction and acquisition of skills taught (Children's Hospital of Boston, Coakley & Barber, 2012). **Objective:** The current study aimed to assess change in functional status in youth with POTS following a 6-week, CBT-focused group intervention. Qualitative data from both youth and parental report was collected to identify themes participants found most beneficial in the group. **Methods:** Self and parent-report functional assessment were completed prior to starting the group intervention (pretreatment) and at the conclusion of the 6-week training (post-treatment). Functional status was assessed using the Functional Disability Inventory (FDI; Claar & Walker, 2006; Walker & Greene, 1991), a measure designed to assess the degree to which illness limits physical activity and psychosocial functioning. The FDI consists of 15 items concerning perceptions of activity limitations during the past 2 weeks. Total scores are computed by summing the items, and scores on the FDI range from 0 to 60; with higher scores indicate greater disability. **Results:** Based on youth and parent report, there were demonstrated decreases in mean scores revealing significant decreases in Total Disability Score, from pretreatment to post-treatment in 6 of 9 participants according to the youth self-report and 7 of 9 participants according to the parent report. Themes related to benefits of social interaction, peer acceptance, and learning new skills emerged from the qualitative data for both youth and their parents. **Conclusion:** The results lend credence to the utilization of cognitive behavioral group intervention in pediatric patients with POTS for reducing functional limitations associated with their disease. Additional empirical research is necessary to examine beyond functional assessment of group intervention targeting patients diagnosed with POTS.

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D094

10:15 AM-11:15 AM

SOCIAL SUPPORT AND SOCIAL NETWORK CHARACTERISTICS IN A SAMPLE OF APPALACHIAN OHIO AND KENTUCKY ADULTS

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Social networks impact health through multiple mechanisms, one of which is the provision of social support. Larger and stronger social support networks often are associated with better health outcomes. Conversely, a lack of social support is correlated with poor self-reported health, increased incidence, morbidity, and mortality from disease. An individual's social network composition and structure may vary, impacting provision of social support. Some evidence supports that the relationship between social support networks and health is dynamic: for example, small networks may negatively affect health, but poor health also may negatively affect a person's ability to maintain a social network. In Appalachian communities, health status tends to be suboptimal, but kin networks are powerful social structures. We examined the relationship between social network characteristics and social support in an Appalachian Ohio and Kentucky population. Data were collected via in-person interviews from 130 adults in Appalachian Ohio and Kentucky. Participants self-reported demographics and health behaviors, and named up to 9 personal network members, then characterized the network members and his or her relationship to each. Social support was measured using the Medical Outcomes Study Social Support Survey Instrument. Mean social support score of the sample was high (82.69, SD = 12.16 on a scale of 0-100). Mean network size was 7.2 (SD=2.7). No significant association was found between social support score and network size, density, or network member characteristics such as proportion of network members the participant trusts a great deal, seeks health advice from, or who are sociodemographically homophilous to the participant. In this sample of Appalachian adults network characteristics are not associated with social support. There are several plausible explanations and conclusion from this lack of association. First, the cultural expectation of extensive social support may lead to a systematic bias toward socially desirable responses. Related, the social support scale may be insensitive to ceiling effects. Though widely validated, the instrument may be unable to distinguish between relatively high levels of social support. Finally, these null findings suggest that, irrespective of social support, salient factors within a person's social network and personal characteristics may shape health status.

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D095

10:15 AM-11:15 AM

SYSTEMS BIOLOGY APPROACH TO IDENTIFY BIOMARKERS FOR BEHAVIORAL INTERVENTION PROGRAM FOR CHRONIC KIDNEY DISEASE

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Chronic kidney disease (CKD) is a major global health burden because of its high prevalence and associated risk of end-stage renal disease, and cardiovascular diseases (CVD). The aim of this abstract is to select biomarkers for the newly funded study, entitled "Lifestyle Management of CKD in Obese Diabetic Patients." The behavioral goals of the interventions are: restriction of: a) total calories; b) dietary sodium; and c) phosphate additives and d) increased physical activity. The above funded study offers a unique opportunity to explore the association between multicomponent behavioral intervention strategies and the plausible mediating biomarkers for the improvement of CVD outcomes among CKD patients.

Candidates for a "novel panel" of biomarkers were selected from searches of the PubMed for combinations of the terms viz., "CKD biomarkers" or "CKD and bone" or "inflammation" or "oxidative stress" and "biomarkers amenable for intervention". From the rigorous literature search we have shortlisted 30 biomarkers. In order to further refine these selected biomarkers and illustrate their functional complexity, selection of this panel was informed by the systems biology, gene-enrichment tool (Cytoscape). The tool has been employed here to distinguish networks of association between biomarkers, generate hypotheses, and illustrate their strengths of association. These associations are then quantitatively expressed by a composite score according to the evidence implied by a given data source for shared function of the connected nodes.

From these 30 biomarkers, we have identified 8 potential biomarkers encompassing 3 pathways: These include: a) AGE/RAGE axis: Advanced glycosylated end products (AGEs), RAGE (sRAGE, esRAGE, S10012); Mineral metabolism: Brain natriuretic peptide, fibroblast growth factor-23, and c) Energy homeostasis: Fetuin-A, liver specific-fatty acid binding protein.

Integrating shared biological processes by systems biology approach may help to unravel the complex associations between these biomarkers and behavioral targets.

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D096

10:15 AM-11:15 AM

THE ASSOCIATION BETWEEN SENSE OF COHERENCE, ETHNIC IDENTITY AND HEALTH IN THREE POPULATIONS IN ISRAEL: JEWS, ARABS AND IMMIGRANTS

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Background: Sense of coherence (SOC) and perceived ethnic identity may serve as protective resources for health in some subpopulations. Our objective was to identify the associations between SOC, perceived ethnic identity (PEI) and mental and physical health in three population groups in Israel. **Methods:** Face-to-face interviews with 899 randomly selected Israeli participants, 30 to 65 years of age was performed. Respondents were from three major population groups, Long Term Jewish Residents (LTJR), former Soviet Union (ISU) immigrants and Arabs. Respondents reported their physical and mental health (SF12), PEI and SOC, in addition to socioeconomic measures. Multivariable logistic regressions were used to identify the relationships between health and the other variables. **Results:** LTJR reported better mental and physical health and higher levels of SOC compared to ISU immigrants and Arabs. PEI was highest among Arabs and lowest among LTJR. SOC was positively and significantly associated with both mental and physical health among Arabs and immigrants after adjusting for age and subjective socioeconomic status (SSS). Among LTJR the association with mental health was significant but not with physical health. In addition, PEI was also associated with SOC in all populations. PEI was associated with physical health among LTJR and mental health among LTJR and Arabs, after adjusting for age and SSS. The addition of PEI to the regression did not change the odds ratio for SOC and physical and mental health. **Conclusions:** SOC may serve as a coping resource or protective resource for mental health in majority and minority populations, and as a resource for physical health mainly in minority populations. Perceived ethnic identity may serve as a coping or protecting resource only the majority population. Perceived ethnic identity does not seem to serve as a mediator or moderator of the association between SOC and health.

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D097

10:15 AM-11:15 AM

THE CONTRIBUTIONS OF SES, PERCEIVED STRESS AND DEPRESSION TO DISABILITY IN A MULTI-ETHNIC SAMPLE WITH LUPUS

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Objectives: Prior research has determined that psychological and socio-demographic factors contribute to functional outcomes among individuals with systemic lupus erythematosus (SLE). Yet the pathways by which these factors influence disability remain unclear, limiting conceptual specificity. The purpose of this study was to evaluate a model describing the interrelations among socioeconomic status (SES), perceived stress, depressive symptoms, and SLE disease activity as determinants of disability in a multi-ethnic sample of patients with SLE. **Methods:** The sample included 134 patients being treated for SLE in a large academic hospital in Los Angeles, California. Structural equation modeling using EQS 6.1 examined the direct and indirect effects of SES (annual household income and subjective SES [social status ladder]), perceived stress (Perceived Stress Scale), depressive symptoms (Hospital Anxiety and Depression Scale depression subscale), and SLE disease activity (SLEDAI) on disability (LupusPro Physical Health and Pain Vitality scales). **Results:** While results showed the hypothesized model provided an adequate model fit, the Wald test indicated removal of three non-significant paths (SES to depression, SES to disability and perceived stress to disability). As such, these paths were removed and the fit of the more parsimonious model was good, CFI=.99; S-B $\chi^2(24)=27.60$, $p=.28$; RMSEA=.03. SES exerted a direct negative effect on perceived stress ($\beta=-.53$, $p<.001$). In turn, perceived stress predicted higher levels of depression ($\beta=.75$, $p<.001$), which ultimately contributed to greater disability ($\beta=.79$, $p<.001$). The influence of SES on disability was indirect (mediated by perceived stress and depression; $\beta_{\text{indirect}}=-.31$, $p=.002$). As an exogenous variable, SLE disease activity had a direct positive effect on disability ($\beta=.13$, $p<.05$). **Conclusions:** Findings support the socio-economic gradient in health outcomes and subjective social status, with lower SES contributing to greater SLE-related disability via higher levels of perceived stress and depression. The implications of these findings for identifying risk for disability and research are discussed.

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D098

10:15 AM-11:15 AM

THE EFFECT OF A BRIEF IN-PERSON INTERVIEW ON DONATION INTENTION AND BLOOD DONOR IDENTITY AMONG NON-DONORS

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Blood donation is an important and necessary voluntary activity. Individuals who have never donated blood often have fear and anxiety about negative adverse reactions, lack knowledge about the importance of donation and may have conflicting thoughts about donating. Most existing interventions to enhance blood donation are primarily aimed at donor retention and may not be appropriate to increase motivation among non-donors. A potential strategy to increase non-donor intent to give blood is motivational interviewing, a clinical approach that addresses ambivalence in an effort to promote an individual's autonomy in making a behavioral decision. By increasing intrinsic motivation, motivational interviewing may also contribute to the development of a blood donor identity. The present study investigated whether a brief in-person interview based on principles of motivational interviewing (MI-based interview) could change intent to donate blood among current non-donors ($n = 174$). The study also examined whether an MI-based interview could increase blood donor identity among non-donors. Participants were randomized into one of three interventions: a motivational interview ($n = 60$), a knowledge interview ($n = 59$), or an informational video about blood donation ($n = 55$). The primary analyses indicated that participants who viewed the video had a greater increase in donation intention as compared to those who took part in either the MI-based interview or the knowledge interview ($p < .001$). Those who took part in either the MI-based interview or watched the video had a greater positive change in donor identity than those in the knowledge interview ($p < .001$). By prompting non-donors to reconsider their thoughts and feelings about donation, the MI-based interview and video may have been able to increase intrinsic motivation, and thereby blood donor identity. The relative success of the video intervention may be explained by its' ability to address multiple barriers that non-donors face, including lack of information. Further research should examine whether combining an MI-based intervention with additional materials, such as an educational video or action planning strategies, may be more effective at increasing intention and blood donor identity among non-donors.

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D099

10:15 AM-11:15 AM

THE EFFECT OF BRIEF INTERVENTIONS ON BLOOD DONOR IDENTITY

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BACKGROUND: Blood donor identity (BDI) – the degree to which one internalizes the role of a blood donor – is recognized as a significant predictor of intent to donate blood. As such, the enhancement of BDI may serve to retain blood donors, thereby supporting the adequacy and safety of the blood supply. Thought to develop as a function of repeated donation behavior, it is unknown if BDI is modifiable by psychosocial intervention. Motivational Interviewing (MI), an intervention that supports individual autonomy and has demonstrated success at increasing blood donation behavior, may represent an appropriate strategy for enhancing BDI. The purpose of the present study was to examine the effect of a brief, MI-informed intervention on BDI among prior blood donors. **METHODS:** A sample of prior blood donors ($n = 154$) was randomly assigned to participate in one of three groups: 1) an MI-informed interview, 2) an informational video about blood donation, or 3) a control interview about general blood donation knowledge. A measure of BDI, representing six factors of increasingly autonomous motivation, was administered before and after the intervention. **RESULTS:** A one-way ANOVA revealed a significant effect of group on BDI ($p < .01$), which reflected significantly greater increases in autonomous motivation scores among participants in both the MI and video groups as compared to the control group. Further examination of BDI subscales indicated that these group differences were also observed on four of the six individual regulatory styles: introjected regulation ($p = .02$), identified regulation ($p < .01$), integrated regulation ($p < .01$), and intrinsic regulation ($p < .01$). **CONCLUSIONS:** BDI is amenable to brief psychosocial intervention. Future investigations are needed to examine how these changes relate to future donation behavior.

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D100

10:15 AM-11:15 AM

THE INFLUENCE OF SOCIAL INTERACTION ON THE LATINO PARADOX

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Despite facing health disparities including low income and low education, Latinos in the United States have a significantly higher life expectancy rate than Caucasians and Blacks, an epidemiological phenomenon called the "Latino Paradox." Many attempts have been made to explain this phenomenon, but few approaches have used a neurological lens. The purpose of this scoping review was to further assess the relationship between stress and social support in Latinos by presenting a way to account for the Latino Paradox that is grounded in neuroscience research. To conduct this review, a review of literature from 1980 to 2014, written in English, and published in peer-reviewed journals was conducted. This initial search provided no results connecting neural implications directly with the Latino Paradox. Criteria were expanded to include studies that addressed social support related to stress, birth weight, levels of depression; a second review was conducted to find studies that discussed the neural impact of stress. These searches yielded over 180 studies that were reviewed by title and abstract for inclusion. A final sample of 20 articles representing 4 themes were summarized. The studies were arranged into thematic groups: infant mortality, acculturation/immigrant status, disease burden, and impact of stress. All studies concluded that social support was an important mitigating factor in buffering the negative effects of stress. This relationship between stress levels and social interaction suggests a neurological explanation for the Latino paradox as related to family and social structure. Close interpersonal relationships typically characterize the social dynamics of Latino families, and such components are linked with better overall perceived health levels. In understanding the neural mechanisms of stress responses and their implications for negative health outcomes, suggestions can be offered to future interventions to consider these data when designing programming for Latinos that utilize the health buffering aspects of social support.

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D101

10:15 AM-11:15 AM

THE LEARNING CURVE BEHIND SOCIAL MEDIA RECRUITMENT: ENGAGING DIFFICULT TO REACH YOUNG ADULTS ONLINE

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Recruitment challenges are familiar to almost all researchers regardless of field or target population. These challenges may stem from the nature of a study, difficult to reach or low-incidence populations, budget limitations, lack of manpower, or other issues. Over the past 10 years, researchers, especially those implementing web-based and mobile health interventions, have begun to leverage online social media to engage their various target populations. Currently, the body of empirical evidence comparing social media and traditional recruitment is limited but growing. Social media recruiting shows promise to become a low-cost and wide reaching tool for researchers to use; however, it is akin to the “Wild West” of recruitment, with unique challenges around ethical concerns, privacy protection, and advertisement campaign development and monitoring.

This poster will present a case example of a successful social media recruitment campaign implemented by the Resilient, Empowered, Active Living with Diabetes (REAL Diabetes) Study. We will describe our strategies used to address the challenges described above, and illustrate the progression of our advertisement campaigns, including a breakdown of advertisement types and costs on the platforms utilized by the study including Facebook, Twitter, Pinterest and Tumblr.

Overall, we found that in-person and social media recruitment were similar in cost (\$129 vs. \$141 per enrolled participant), and a similar proportion of potential participants recruited through social media vs. clinics ultimately enrolled in the study (32.5% vs. 32.1%, $p=1.00$). Potential participants who responded to our social media campaigns were older (25.4 vs. 21.1 years old, $p < 0.0001$) and more likely to be women (79.7% vs 49.6%, $p < 0.001$) than those approached at clinics. Among those who did not enroll, a greater proportion of clinic vs. social media contacts declined to participate (26.1% vs. 6.5%, $p=0.004$), whereas there was trend toward a greater proportion of social media contacts being ineligible as compared to clinic contacts (48.1% vs 35.8%, $p=0.11$).

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D102

10:15 AM-11:15 AM

THE NIH COMMON FUND'S SCIENCE OF BEHAVIOR CHANGE INITIATIVE: UNIFYING BEHAVIOR CHANGE RESEARCH ACROSS DISEASES AND DISCIPLINES

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The overall goal of the NIH Common Fund's Science of Behavior Change (SOBC) initiative is to implement a mechanisms-focused, experimental therapeutics approach to behavior change research, and to develop the tools required to implement such an approach. An experimental therapeutics approach involves four steps: 1) identifying an intervention target (i.e., a mechanism or construct hypothesized to be involved in health behavior); 2) developing valid and reliable assays (i.e., measures) of the target; 3) engaging the target through experimental manipulations or interventions; and 4) testing the degree to which the target is engaged, and determining the degree to which engagement produces the desired behavior change. This approach is different from how the majority of behavior change research is typically conducted, where basic mechanistic research to understand how and why behavior change occurs tends to be conducted separately from clinical behavior change intervention research. This disconnect impedes progress and can lead to costly inefficiencies, requiring new and expensive clinical trials to test even the most incremental changes in intervention strategy or end-user population.

Recommendations from a diverse group of experts in the field shaped the SOBC approach, and funded studies have demonstrated proof-of-concept of an experimental medicine approach to behavior change intervention research. Experts also identified a need to develop assays to measure engagement of putative targets in order to interpret the effects of interventions.

With its renewal in 2015, SOBC is implementing a 5-year plan to facilitate an experimental therapeutics approach to behavior change research. SOBC hopes to unify behavior change research across diseases, disciplines, and stages of life so that there are common conceptualizations and measures of putative behavior change targets; intervention studies assess engagement of putative targets, as well as subsequent changes in health behaviors; and each behavior change study contributes to a cumulative body of knowledge about behavior change.

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D103

10:15 AM-11:15 AM

THE PARADOX OF HPV VACCINE COVERAGE IN ASIAN INDIANS: WHEN SOCIOECONOMIC STATUS AND INSURANCE ARE NOT PREDICTIVE OF UPTAKE

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Background: The human papillomavirus (HPV) is a significant health concern. Not only is it the most common sexually transmitted infection in the U.S. as well as being a cause of genital warts and cancer, but HPV is also preventable through vaccination. However, HPV vaccine uptake, or the lack thereof, continues to challenge public health practitioners and clinicians alike. The aim of this study is to examine differences in HPV vaccine rates across racial and ethnic minorities, examining Asian Indians', a group that has higher rates of socioeconomic status than Non-Hispanic Whites but is also comprised of immigrants acclimating to residence in the United States, vaccine uptake separate from other Asians and racial and ethnic groups. Methods: We used 2007 through 2013 data from the National Health Interview Survey to conduct comparisons of means, multivariate logistic regression analyses and tests of mediation examining association between race/ethnicity, foreign-birth and vaccination. Results: Though Asian Indians have significantly higher income and education than Non-Hispanic Whites, rate of HPV uptake is significantly lower breaking the widely believed positive association between higher SES and better health behavior/outcome. A part of this result can be explained by the lack of vaccination among foreign-born – Asian Indians who are not born in the U.S. are significantly less likely to get HPV vaccination. Conclusion: Though variations in HPV uptake can be explained by SES and insurance coverage to a large extent, preventive health behavior can be cultural in nature, particularly among the immigrant population who reflect global disparities in understanding and practices of preventive medicine. Awareness campaigns may lead to increase in uptake even among otherwise educated and non-poor population.

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D104

10:15 AM-11:15 AM

THE PERCEPTIONS OF SOCIAL SUPPORT AMONG CAREGIVERS AND INDIVIDUALS WITH CHRONIC CONDITIONS

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Although it is the individual who is diagnosed with chronic disease, the entire family experiences life with the illness. Chronic illness is a multidimensional experience; the most efficacious support for families living with chronic illness will also be multidimensional. The response to chronic conditions in a family member may depend on the nature and course of the illness, itself, as well as on the demands perceived by family members and individuals with chronic conditions. Data from the *Chronic Illness and Caregiving* (N = 983) assessed the perception of social support among individuals with chronic illness (N=559), caregivers (N=189), and caregivers with chronic illness (N=235) 18 years and older. Logistic regression coefficients and odds ratios perceived difficulty of social support reflected that older women and widows perceived less difficulty in familial support, individuals with higher education level and caregivers perceived more difficulty in familial support. Hierarchical multiple regression analysis was used to determine if demographical characteristics, perception of stressors, and chronically ill or caregiver status impact perception of available support. Findings suggest that perception of stressors are associated with being diagnosed with a chronic condition but not caregiving. Consideration of the relationship between type of support and potential sources of support can provide clinicians and public health investigators with a basis on which to assess potential support requirements and availability for individuals with chronic conditions and their familial support members. This study highlights related perceptions of stress and support that exist among individuals who cope with and care for individuals with chronic conditions.

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D105

10:15 AM-11:15 AM

TRUST MEDIATES BLACK-WHITE INEQUITIES IN SELF-REPORTED HEALTH

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Personality is a central predictor of health, but its contribution to racial health inequities has received limited attention. Lower levels of trust, a personality trait measuring the tendency to view others as trustworthy and as having good intentions, may contribute to poorer health by reducing factors such as healthcare utilization and social support. Black Americans are found to endorse lower levels of trust, likely due to discrimination and social surveillance. We tested the hypothesis that Black participants report poorer health directly, as well as indirectly through lower levels of trust.

Data were analyzed from 1201 adults (ages 55-64; 33% Black; 54.5% female) participating in a longitudinal study of aging and health. Race (0 = Black) was self-reported. Trust was measured at baseline with the NEO Personality Inventory Revised, which measures the Five Factor Model of Personality. Self- and informant-reported (e.g., significant other) trust scores were averaged. Self-reported physical health was measured at baseline and at 6 months follow-up with the RAND-36 Health Status Inventory. An independent samples t-test examined racial differences in trust and health. Mediation effects were examined with PROCESS for SPSS, utilizing bootstrapping with 95% confidence intervals (CI). Race was included as the predictor, trust as the mediator, and follow-up health as the outcome. Baseline health, gender, income and education were included as covariates.

Black participants reported significantly lower trust ($t = -9.59$, $d = .56$; $p < .001$) and follow-up health ($t = -8.96$, $d = .51$; $p < .001$) than White participants. The mediator model accounted for significant variance in health ($R^2 = .66$; $F[6,1194] = 386.07$; $p < .001$). Black participants reported poorer health directly (effect = .056; 95% CI [.016 to .096]), as well as indirectly through lower levels of trust (effect = .008; 95% CI [.003 to .016]). When income and education were included as competing mediators, only trust was a significant mediator (effect = .012; 95% CI [.004 to .022]).

Results suggest that addressing racial differences in trust may ameliorate racial health inequities. More research is needed to elucidate the transactions among distinct trust constructs, such as interpersonal, cultural and health care-related mistrust, on health inequities.

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D106

10:15 AM-11:15 AM

USE AND MISUSE OF MOBILE HEALTH INFORMATION TECHNOLOGIES FOR HEALTH SELF-MANAGEMENT

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Specialized wellness-promoting mobile health technologies, including mobile apps and wearable activity trackers become increasingly popular, available to support patients' efforts in self-management of health. However, the patient's acceptance and use of these technologies depends on the application's perceived experience and the appropriateness of the application to the patient's context and needs. Yet, we have a weak understanding of a patient's experience of the apps and wearables and the factors influencing it. We present results of an explorative study, conducted to deepen this understanding. We have conducted 150 interviews with patients of the Bariatric and Metabolic Interdisciplinary Clinic (Stanford, USA), where 20 of these patients were involved in 4-weeks long study, in which we have collected both the user experience (via an Ecological Momentary Assessment) and the underlying mobile app and wearable device usage logs. We have collected data in the patients' natural environments and different daily context ('in situ').

The results indicate that the mobile apps for health/wearables have potential, but must be further co-designed with patients, to address different human aspects of their use. Specifically, the apps/wearables shall be much easier to use, more personalized and context-aware for the patient's routine and lifestyle choices, as well as with respect to momentary patient activities (e.g., location, type of people around the patient being in a personal or a professional context) and health(care) needs. Additionally apps and devices must be more battery efficient and accurate; providing timely, non-judgmental feedback and personalized advice to patients anywhere-anytime-anyhow. It is important to engineer the health information technologies that support the patients' self-management efforts and improve their self-efficacy of activities contributing to health, i.e., belief that they can manage own physical activity, nutrition, sleep, etc. We present data acquired in the study and set of identified implications for design for mobile apps and wearables to effectively support patients' efforts in self-management of health.

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D107

10:15 AM-11:15 AM

USING INFO GRAPHIC COMMUNICATION FOR BEHAVIORAL CHANGE FROM ADVERSE EVENT RELATED TO HEALTH PRODUCT

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Background : Health problems related to medicinal products, particular after using them such as side effect, adverse drug reaction(ADR), adverse effect(AE), etc. Some problems cause serious illness and death which lead to other aspects for example, patients sue doctors, NGOs sue hospitals or health service organizations. It has been accepted that communication between health professionals (doctor, pharmacist, dentist, nurse) and patients is important because effective treatment come from effective messages. In Thailand, Health Product Vigilance Center(HPVC) is the national center for collecting, validating, making assessment all AE reports from hospitals and pharmacies around country. Most of reports which have been sent to HPVC come from pharmacists working in hospitals or pharmacies. We, HPVC, concern that if pharmacists have communication tools for using while they talk to patients, it will help patients for better understanding in using medicines. So we developed info graphic guideline book entitled "sick, recommendation, cautions" which was translated to ASEAN countries languages plus Chinese, English, and Russian. Hopefully, the guideline book using by pharmacists will affect behavioral changes in patients and better understanding medicine using. Objective: To evaluate the attitude of pharmacists to info graphic guideline book. Method : Survey design. We invited 100 hospital-pharmacists to the meeting and set up the program for them to comment on each part of the info graphic guideline book. Then we classified all comments into 3 groups; 1) Positive or Negative 2) Contents 3) Understanding. Results: 50 pharmacists (50% of invited people) participated in the meeting and made useful comments on info graphic guideline book. Most of participants felt positive to the book, and thought it helped them giving better services to patients or customers. The contents were appropriate and the participants suggested to add some new items such as ka-ra-o-ke under each languages. For understanding, almost pharmacists were familiar with contents in the info graphic guideline book and they appreciated to use it with customers, particular foreigner customers from Myanmar, Russia, and China. They said the book was friendly use and their customers trusted them higher when they spoke the same language. Conclusion: To give better services to patients and let them understand how to use medicines properly, cautions, and also side effects, ae, adr may happen anytime of careless. When health professionals have useful communication tools such as Info graphic guideline book for explanation complex medical words to easy and friendly words to patients, it probably encourage patients to change behavior finally.

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D108

10:15 AM-11:15 AM

USING THE CFIR FRAMEWORK TO IDENTIFY BARRIERS AND FACILITATORS FOR THE IMPLEMENTATION OF A SECURE EMAIL SERVICE IN FIVE SETTINGS

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Background: While there is growing evidence of the positive effects of Internet-based patient-provider communication services (IPPC) for both patients and health care providers, their implementation into clinical practice is a challenge. **Objective:** 1) identify and compare barriers and facilitators influencing the implementation of an IPPC in five hospital units using the Consolidated Framework for Implementation Research (CFIR); 2) assess the ability of the different constructs of CFIR to distinguish between high and low implementation success, and 3) compare our findings with those from other studies that have used the CFIR to discriminate between high and low implementation success. **Methods:** Individual interviews with 10 nurses, six physicians and one nutritionist who had used the IPPC to answer messages from patients. **Results:** Twenty-eight of the 36 CFIR constructs were addressed in the interviews, of which 12 distinguished between high and low implementation units. Most of the distinguishing constructs were related to the *inner setting* domain of CFIR, indicating that institutional factors were particularly important for successful implementation. Health care providers' beliefs in the intervention as useful for themselves and their patients as well as the implementation process itself were also important. A comparison of constructs across ours and two other studies that had also used the CFIR to discriminate between high and low implementation success, showed that 24 CFIR constructs distinguished between high and low implementation units in at least one study. Eleven constructs distinguished in two studies. Only two constructs (*patient need and resources* and *available resources*) distinguished consistently between high and low implementation units in all three studies. **Conclusions:** CFIR is a helpful framework for illuminating barriers and facilitators influencing IPPC implementation. However, CFIR's strength of being broad and comprehensive also limits its usefulness as an implementation framework. Findings from this study can contribute to the refinement of CFIR towards a more succinct and parsimonious framework for planning and evaluation of the implementation of clinical interventions.

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D109

10:15 AM-11:15 AM

USING THE COMMON SENSE MODEL TO BETTER UNDERSTAND THE IMPAIRED QUALITY OF LIFE OF PATIENTS TREATED FOR NEUROENDOCRINE DISEASES

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Context: Impaired quality of life (QoL) is commonly reported by patients treated for neuroendocrine diseases. The impaired QoL has been related to many psychological symptoms (e.g., personality pathology, negative illness perceptions). One way to explain the relationship between impaired QoL and psychological symptoms is through the common-sense model of self-regulation. However, there have been no studies examining how each part of the CSM works together to predict QoL. Furthermore, there have been no studies assessing the impact that personality has on the relationship between the CSM and QoL. Objective: The aim of the present study is to use path analysis to assess how the CSM relates to QoL and how personality pathology may affect this relationship. Patients and Design: Patients treated for neuroendocrine diseases (i.e., Cushing's syndrome, acromegaly, Addison's disease, and non-functioning pituitary adenomas) were recruited from Leiden University Medical Center and asked to complete measures on personality pathology, illness perceptions, coping strategies, and QoL ($n = 152$). Results: The path analysis revealed that the CSM adequately fit the data. Information criteria (i.e., AIC, BIC, and aBIC) indicated that personality pathology did not improve how the statistical model reflected the data. Therefore, the final model included illness perceptions, coping strategies, and QoL. Illness perceptions predicted which coping strategies were adopted and these coping strategies predicted QoL. Generally, negative illness perceptions predicted the use of ineffective coping strategies and ineffective coping strategies predicted impairments of physical and social functioning domains of QoL. Discussion: This is the first study to examine the combined effect that all parts of the CSM has on the impaired QoL of patients treated for neuroendocrine diseases. The CSM was revealed to be a useful tool in explaining how the psychological consequences of neuroendocrine diseases relates to neuroendocrine patients' impaired QoL.

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D110

10:15 AM-11:15 AM

ACADEMIC OUTCOMES OF STUDENT VETERANS WITH MUSCLE/JOINT PAIN

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Many veterans of Operations Enduring Freedom and Iraqi Freedom (OEF/OIF) experience chronic muscle and/or joint pain (MJP)(Gironda, Clark, Massengale & Walker, 2006). MJP can impair reintegration, or returning to daily civilian roles (Helmer, Chandler, Quigley, Blatt, Teichman & Lange, 2009). One important component of reintegration for many veterans is being successful academically. No study has examined if MJP makes it difficult for veterans to achieve their academic goals. We surveyed 102 student veterans attending college across the United States to determine the relationship between MJP and academic outcomes. The survey was distributed to veterans by local chapters of the Student Veterans of America. Participants rated the severity of their current MJP, their likelihood of withdrawing from college by choice, their current cumulative college GPA and the average percentage of classes missed per semester. We found that MJP severity is positively correlated with the average percentage of classes missed per semester, $r(100) = .215$, $p < .05$, but was not related to GPA or their likelihood of withdrawing from college by choice. Additionally, the average percentage of classes missed is negatively correlated with cumulative college GPA, $r(100) = -.339$, $p < .01$. These results suggest that student veterans' likelihood of missing class increases as the severity of their MJP increases. The more classes student veterans report missing per semester, the lower their cumulative GPA's. Veterans with MJP may need additional resources to reduce the number of classes they miss. Ultimately this may help their academic success.

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D111

10:15 AM-11:15 AM

DO PROVIDERS AND CAREGIVERS ACCURATELY ASSESS CANCER PATIENTS' PAIN? RESULTS FROM TWO META-ANALYSES

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Introduction: Pain affects more than half of all cancer patients and is a leading contributor to morbidity and poor quality of life. Healthcare providers' ability to accurately assess their patients' pain leads to more appropriate prescribing and treatment. Caregivers' accurate assessments of pain also play a role to inform care and decision-making, especially for patients with limited ability to communicate their pain. However, the accuracy with which providers and caregivers judge cancer patients' pain has never been systematically described. **Methods:** We did a systematic review of the literature and conducted two meta-analyses to assess the 1) association between providers/caregivers' judgments of pain and patient-reported pain, and 2) degree to which providers/caregivers over- or underestimate pain. We also examined the potential moderators including characteristics of the provider/caregiver, cancer patient, setting and type of pain. **Results:** The majority of the studies looked at caregivers' judgements of cancer patients' pain. In 34 effect sizes from 27 studies there was a significant overestimation of patient pain ($Z=2.62$, $p=.008$). This was true for caregivers and nurses, but not physicians. Physicians are less likely to underestimate cancer-related pain than other types of pain ($Z=6.14$, $pr=.51$, p). **Implications:** Providers and caregivers are somewhat able to distinguish between cancer patients in varying levels of pain. However, caregivers and nurses tend to overestimate the patient's pain. Educating providers and caregivers about errors in pain judgment and how to accurately assess patient pain may be an important tool to improve care for cancer patients suffering from pain.

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D112

10:15 AM-11:15 AM

EVALUATING THE UTILITY OF THE PAIN DISABILITY QUESTIONNAIRE FOR PHYSICAL OUTCOMES FOLLOWING TOTAL KNEE ARTHROPLASTY (TKA)

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Objective: The Pain Disability Questionnaire (PDQ) assesses perception of disability in relation to pain. Past research has confirmed the utility of the PDQ to predict functional restoration treatment outcomes for patients with chronic disabling occupational musculoskeletal disorders. This is the first study to evaluate the utility of the PDQ in a sample of patients with chronic lower extremity osteoarthritis for pre-surgical and one-year post-surgical physical outcomes for patients undergoing TKA. **Methods:** A total of 130 patients undergoing TKA completed the PDQ prior to surgery and then were assessed 12-months post-op. Other measures used included the Western Ontario and McMaster Arthritis Index (WOMAC), the Knee Society Score, and the Patient Health Questionnaire to assess psychological distress. Patients were classified into three groups based on their total baseline PDQ scores: Mild/Moderate (0-70), Severe (71-100), and Extreme (101-150). **Results:** Univariate baseline analyses showed that patients with Severe and/or Extreme levels of perceived pain disability were more likely to be younger ($p=.010$), Hispanic ($p=.013$), and no college education ($p=.005$). Patients in the Extreme disability group were significantly more likely at baseline to present with Major Depressive Disorder ($p < .001$), Anxiety Disorder ($p = .007$) and/or Somatization disorder ($p = .038$). For physical comparisons, patients in the Severe/Extreme groups had significantly higher levels of pain, stiffness and poor function (all $p < .001$) prior to surgery and significantly higher levels of pain ($p < .001$) and poor function 12-months post-op ($p < .001$). When controlling for demographic factors, a multivariate gamma regression analysis showed that the baseline PDQ was significantly associated with the 12-month post-op WOMAC total score ($p < .001$) such that patients with higher levels of perceived disability prior to surgery reported more pain, more stiffness and less function at the 12-month post-surgical follow-up. **Conclusions:** The PDQ shows to be a useful pre-surgical measure for assessing both pre-operative and post-operative physical and functional outcomes for patients undergoing TKA.

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D113

10:15 AM-11:15 AM

PAIN AND PHYSICAL ACTIVITY AMONG A DIVERSE RACIAL SAMPLE OF OLDER ADULT MALES: ARE THEY MORE ALIKE THAN DIFFERENT?

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Pain and pain outcomes have been vastly researched, and a substantial body of knowledge exists regarding the subjective pain experience among the general population. While significant associations have been found between pain and physical activity among the general population, less is known about this relationship among older adults males, particularly those from diverse race groups. Positive health behaviors, such as engaging in physical activity, have been shown to help mitigate the acute symptomology consistent with chronic pain. While pain has been shown to decrease rates of physical activity, few studies have investigated if the incidence of physical activity varies among diverse race groups, particularly in conjunction with the presence of pain. This study aimed to examine race differences in physical activity among White, Black, and Hispanic males, and to assess the pain experience as a potential mediator. The sample was restricted to Caucasian, Black and Hispanic males, ages 60+ years of age ($N=5,486$), with the majority (65%) self-identifying as non-Hispanic Caucasian ($n=3,583$). Data were collected on measures of physical activity, pain severity, and a series of socio-demographic characteristics. Multivariate models were estimated, and illustrated that mild and moderate levels of pain increased the odds of physical activity among Hispanics, while decreasing the odds of physical activity among Whites. Similarly, pain-free prevalence rates were highest among Blacks (72.6%) and lowest among Whites (70.3%). Results from these analyses provide a critical outlook on the experiences and factors related to health outcomes among males in the United States. Knowing this may provide a more comprehensive approach to the specific needs of this population, while providing data that may dictate healthy living and aging.

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D114

10:15 AM-11:15 AM

PAIN RESILIENCE IS ASSOCIATED WITH TASK BEHAVIOR DURING HEAT PAIN THRESHOLD ASSESSMENT.

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Recently, a measure of pain-specific resilience, the Pain Resilience Scale, has been developed to assess dimensions of resilience critical to pain-related adaptation and was found to predict experimental pain sensitivity in a pain-free population. Pain resilience has also been theoretically linked to behavioral persistence despite pain. To date, however, this hypothesis has not been experimentally tested. To address this gap in the literature, participants ($N=105$) in the current study underwent a baseline series of five heat pain threshold assessments, followed by a baseline administration of the Paced Auditory Serial Addition Task (PASAT) delivered with somatosensory distraction (i.e. detection of warm and cool thresholds), and finally simultaneous administration of the PASAT and a series of five heat pain threshold assessments. Results of hierarchical multiple linear regressions indicate that, controlling for scores on the baseline PASAT and pain sensitivity, pain resilience accounted for a significant amount of the variance in both task persistence and task performance on the PASAT. Specifically, pain resilience was positively related to task persistence, $B=0.14$ $p=0.02$, and task performance, $B=0.16$ $p=0.02$, when individuals were undergoing painful stimulation. These findings provide novel support for the relationship between pain resilience and behavioral perseverance as well as additional experimental validation of the Pain Resilience Scale.

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D115

10:15 AM-11:15 AM

PAIN, PSYCHIATRIC SYMPTOMS, AND MEDICATION ADHERENCE IN ADULT SMOKERS LIVING WITH HIV

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INTRODUCTION: Medication adherence in persons living with HIV (PLWH) is vital for suppression of viral load. Unfortunately, non-adherence to treatment is very common in this population. As pain and psychiatric symptoms are common in PLWH and have demonstrated a negative relationship with adherence in other disease conditions (e.g., migraine, fibromyalgia), they may represent modifiable characteristics associated with adherence in PLWH. **OBJECTIVE:** To determine if there is a relationship between pain, psychiatric symptoms, and medication adherence. **METHODS:** This was a secondary analysis of a study exploring smoking in PLWH. Seventy-four adult HIV positive smokers were recruited from the Center for Positive Living clinic in Bronx, NY. Participants completed a survey with measures including the Morisky Medication Adherence Scale (MMAS-8), PROMIS 8-item scale for anxiety, depression, and pain interference, 3-item Neuropathic Pain Questionnaire (NPQ), and Numeric Rating Scale (NRS) for pain severity. **RESULTS:** Seventy-four participants were included: $M=59.5\%$; $F=40.5\%$, Mean age= 51.7 ± 7.9 (range= $27-70$). The majority of the participants identified as Latino/a (45.9%) or non-Latino/a African-American (41%), completed high school/GED (64.8%), and identified as heterosexual (69.4%) or LGBT (30.6%). The association of medication adherence to variables of interest was examined using t-tests for continuous variables and chi squares (Yates Continuity Correction) for categorical variables. 47.3% of participants reported low adherence (MMAS ≤ 6) and 52.7% reported high adherence (MMAS > 6). Demographics and pain variables (e.g., interference, chronicity, severity) did not significantly differ between participants with high vs. low adherence (all $ps > .05$). Higher anxiety ($\chi^2(1, n=70)=5.81, p=.02$) and higher depression ($\chi^2(1, n=70)=4.02, p=.05$) (as indicated by t-scores > 60 on PROMIS measures) as well as higher disease activation ($t(59)=2.772, p=.01$) were associated with lower adherence. **CONCLUSIONS:** Higher depression, anxiety, and disease activation were associated with poorer medication adherence in adult smokers with HIV.

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D116

10:15 AM-11:15 AM

PATIENT SATISFACTION AND OUTCOMES FOLLOWING CBT FOR CHRONIC PAIN (CBT-CP) VIA CLINICAL VIDEO TECHNOLOGY

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Objective: To determine if veterans are satisfied with Cognitive Behavioral Therapy for Chronic Pain (CBT-CP) delivered to their local VA clinic via clinical video technology (CVT) from a remote site. Improvements in pain-related functioning and pain intensity were also measured. **Method:** Participants were 203 veterans with a variety of non-cancer pain complaints surveyed using the Pain Outcomes Questionnaire-VA (POQ) immediately before and following receipt of CBT-CP delivered via CVT. CBT-CP is an evidence-based psychotherapy that has been broadly disseminated in VA, delivered to veterans at 13 remotely located VA clinics across the United States using CVT. The POQ is a self-report measure assessing pain treatment outcomes in key domains that has demonstrated adequate reliability, concurrent validity, and sensitivity to treatment-related changes in functioning. **Results:** Veterans reported being satisfied with CBT-CP ($M = 9.21, SD = 1.35$; 1-10 scale with 10 = completely satisfied) and would highly recommend the program to someone else ($M = 9.55, SD = 1.22$). A moderate effect size representing a pre to post-treatment change of at least one-half a standard deviation was used as an indication of clinically significant change. Using this benchmark, 60% of patients had a clinically significant improvement in Pain Intensity, 50% in Negative Affect, and 47% in Vitality. Clinically significant improvements were reported by 33% of patients in terms of Activities of Daily Living, 28% in Fear of Pain, and 28% in Mobility. **Conclusion:** Veterans were highly satisfied with CBT-CP delivered via CVT. Treatment outcomes were strong using this modality of treatment delivery and were comparable to those reported in studies involving face-to-face delivery of CBT for chronic pain management. These results indicate that provision of CBT-CP via CVT is a viable modality for improving access to pain services in rural and underserved veteran populations.

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D117

10:15 AM-11:15 AM

PHYSIOLOGICAL INDICES OF STRESS PRIOR TO AND FOLLOWING TOTAL KNEE ARTHROPLASTY (TKA) PREDICT SEVERE POST-OPERATIVE PAIN

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Objective: The severe pain and disability associated with osteoarthritis often motivate individuals to undergo arthroplastic surgery. However, a significant number of surgical patients continue to experience pain following surgery. Prior research has implicated both the hypothalamic-pituitary-adrenal (HPA) axis and sympathetic nervous system (SNS) in the sensitization of pain receptors and chronic pain conditions. The present study uses a prospective, observational, cohort design to examine whether physiological stress responses before and after surgery could predict post-operative pain severity. **Subjects:** Participants included 110 patients undergoing total knee arthroplasty. **Methods:** Physiological indices of stress included the measurement of catecholamine and cortisol levels in 15-hour urine samples collected prior to and 1-month following surgery, as well as in-hospital heart rate and blood pressure (before and after surgery) which were abstracted from medical records. Patients completed the pain subscale of the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC; Bellamy et al., 1988) 2 ½ weeks prior to surgery and at a 3 month follow-up. **Results:** Contrary to expectations, lower stress hormone levels at baseline were related to more severe post-operative pain. Data at later time points, however, supported our hypothesis: cardiovascular tone shortly before surgery and urinary levels of epinephrine 1-month following surgery were positively related to pain severity 3-months later. **Conclusion:** Results suggest that the occurrence of post-operative pain can be predicted on the basis of stress physiology prior to and following arthroplastic surgery.

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D118

10:15 AM-11:15 AM

PROGNOSIS OF PAIN AND PHYSICAL FUNCTIONING IN PATIENTS WITH KNEE OSTEOARTHRITIS: SYSTEMATIC REVIEW AND META-ANALYSIS

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Objectives. To systematically summarise the literature on 1) the course of pain in patients with knee osteoarthritis (OA); 2) prognostic factors that predict future pain; 3) the course of physical functioning; and 4) prognostic factors that predict deterioration of physical functioning in persons with knee OA. **Methods.** A search was conducted in PubMed, CINAHL, Embase, Psych-INFO, and SPORTDiscus up to January 2014. A meta-analysis and a qualitative data synthesis were performed. **Results.** Of the 58 studies included, 39 were of high quality. High heterogeneity across studies ($I^2 > 90\%$) and within study populations (reflected by large standard deviations of change scores) was found. Therefore, the course of pain and physical functioning was interpreted to be indistinct. We found strong evidence for a number of prognostic factors predicting deterioration in pain (e.g. higher knee pain at baseline, bilateral knee symptoms and depressive symptoms). We also found strong evidence for a number of prognostic factors predicting deterioration in physical functioning (e.g. worsening in radiographic osteoarthritis, worsening of knee pain, lower knee extension strength, lower walking speed and higher comorbidity count). **Conclusion.** Because of high heterogeneity across studies and within study populations, no conclusions can be drawn with regard to the course of pain and physical functioning. These findings support current research efforts to define subgroups or phenotypes within knee osteoarthritis populations. Strong evidence was found for knee characteristics, clinical factors, and psychosocial factors as prognostics of deterioration of pain and physical functioning. Treatment of modifiable factors such as knee pain, upper leg muscle strength, comorbidity, and depressive symptoms may reduce the risk of worsening of knee pain and physical functioning.

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D119

10:15 AM-11:15 AM

RECOMMENDATIONS FOR WEIGHT LOSS IN ADULTS WITH ARTHRITIS AND OBESITY: TOO LITTLE TOO LATE?

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Background: Weight loss is a key component of evidence-based guidelines to manage arthritis-related pain. However, implementation of guideline recommendations is suboptimal. Patient characteristics that may influence guideline implementation are not well examined. **Objective:** Using a nationally-representative sample, evaluate patient factors associated with receiving a health professional's recommendation to lose weight to help manage arthritis symptoms. **Method:** Data from the CDC Behavioral Risk Factor Surveillance System 2011 were used. Binary logistic regression models examined the impact of weight status, symptom severity, sociodemographic factors, and health risk behaviors on likelihood of receiving a physician or health professional's recommendation for weight loss to aid symptom management in those with arthritis ($n = 10,996$). **Results:** Among those with arthritis and $BMI \geq 25$, 45.3% ($n = 4,977$) reported receiving a recommendation to lose weight. Individuals who met criteria for obesity were 4.5 times more likely to receive a recommendation compared to overweight peers (95% CI = 4.1, 4.9). Pain and symptom severity were also associated with a recommendation for weight loss. Those reporting increased joint limitation (OR = 1.2, 95% CI = 1.1, 1.4), negative impact on social function (OR = 1.7, 95% CI = 1.4, 2.0), and mild to moderate pain (OR = 1.3, 95% CI = 1.1, 1.6) were all significantly more likely to receive a recommendation. Several sociodemographic variables increased likelihood of receiving a recommendation to lose weight including female sex, older age, Black/Hispanic race, unemployment, and education less than a college degree ($p's \leq .05$). **Conclusions:** Recommendations for weight loss in those with arthritis are associated with higher BMIs and more severe symptom presentations, and only occur in about half of those who may benefit from weight loss. Given barriers to weight loss for those with persistent pain and the potential for even small amounts of excess weight to negatively impact arthritis outcomes across time, it is possible recommendations are being given too late in the disease course for maximal benefit.

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D120

10:15 AM-11:15 AM

RELATIONSHIP BETWEEN HEADACHE SPECIFIC LOCUS OF CONTROL, PAIN BELIEFS, AND PSYCHIATRIC SYMPTOMS IN PATIENTS WITH MIGRAINE

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Migraine is a neurological disorder characterized by moderate to severe unilateral headaches, accompanied by nausea, vomiting, phonophobia and photophobia. Individuals may differ in their beliefs regarding whether the development and progression of headache symptoms are a result of their own behavior (internal LC), their healthcare professional's actions (healthcare professional LC) or due to chance (chance LC). This study investigates associations between headache specific locus of control (HSLC), pain beliefs (pain catastrophizing and pain anxiety) and psychiatric symptoms (anxiety and depression) in patients with migraine.

This study is a secondary analysis from a larger observational study of ninety-five patients with an IHS diagnosis of migraine. Participants completed self-report questionnaires during clinic visits with their neurologists in a tertiary care headache center. Questionnaires examined HSLC, pain anxiety (Pain Anxiety Symptoms Scale-20, PASS-20), pain catastrophizing (Pain Catastrophizing Scale, PCS), depression (Patient Health Questionnaire, PHQ-9) and anxiety (Generalized Anxiety Disorder Questionnaire, GAD-7). Correlations among variables were examined.

Higher healthcare professional LC was related to lower levels of depression ($r = -0.23, p < 0.05$). Higher internal LC was related to higher levels of anxiety ($r = .26, p < .05$). Higher chance LC was related to higher levels of pain catastrophizing ($r = .26, p < .05$) and higher levels of pain anxiety ($r = .26, p < .05$). Higher levels of pain catastrophizing ($r = .45, p < .001$), pain anxiety ($r = .30, p < .001$). Higher levels of pain catastrophizing were related to higher levels of pain anxiety ($r = .59, p < .001$).

Results indicate associations between an individual's belief regarding whether the development and progression of their headache symptoms are due to their physician's actions, their own behaviors, or due to chance, pain related beliefs, and psychiatric symptoms. Clinicians may benefit from paying attention to patient's HSLC beliefs, and target pain catastrophizing and pain anxiety beliefs in behavioral treatments for migraine.

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D121

10:15 AM-11:15 AM

THE CHRONIC MIGRAINE EXPERIENCE

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Chronic migraine is a costly and highly disabling condition that impacts millions of people in the United States. While chronic migraine is hypothesized to result from more infrequent forms of migraine, the precise mechanism by which this develops is still being researched. This study sought to better characterize the treatment patterns, disorder characteristics, and medical and disability profile of the chronic migraine population using the largest dataset of chronic migraineurs ever collected. A survey was presented by a migraine specific community website between July and August 2014. The survey was started by 8,359 individuals and 4,787 met the inclusion criteria for this study. Stressful life events associated with migraine were significantly correlated with a wide range of comorbid medical and psychiatric diagnoses but not with the length of time since the first migraine symptom was experienced ($p=ns$) or with the length of time since migraine was diagnosed ($p=ns$). The levels of depression and anxiety experienced by this group as well as qualitative aspects of their migraine experience suggest that chronic migraineurs may attribute psychiatric symptoms to their migraines rather than a psychological issue. Further, the sample in this study was found to underutilize mental health services. Providers of chronic migraineurs should ensure that they are receiving appropriate mental health care in order to alleviate psychological distress as well as to potentially lessen negative life events previously associated with migraine symptoms.

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D122

10:15 AM-11:15 AM

A BRIEF INTERVENTION TARGETING COLLECTIVE EFFICACY TO INCREASE PHYSICAL ACTIVITY AMONG MOTHERS

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Background: Motherhood is associated with low levels of physical activity and theory-based interventions are needed to improve health outcomes among this population. Collective efficacy has been associated with health behaviors and outcomes in other populations and might be useful for increasing physical activity among mothers. **Purpose:** To compare the efficacy of two approaches for increasing physical activity and collective efficacy among mothers. **Methods:** Mothers ($N=58$) in this pilot study were asked to complete a measure of collective-efficacy and wear a pedometer before and after a 6-week intervention. Participants were randomly assigned to a standard or intervention (collective-efficacy enhanced) group. All participants were asked to attend three intervention sessions per week that each included a health education lesson and a group walk. Strategies and messages designed to increase collective efficacy were used in the intervention group. **Results:** Repeated measures ANOVAs indicated that there were small-to-moderate main effects that approached statistical significance for step counts ($p=.14, 2=.04$) and activity minutes ($p=.07, 2=.06$). The non-significant, group x time interactions for pedometer step counts ($p=.49, 2=.01$) and activity minutes ($p=.17, 2=.04$) were small-to-moderate in magnitude with higher levels of physical activity for the intervention compared to standard group. There was a moderate increase in collective efficacy in both groups ($p=.04, 2=.08$) and there was a small, non-significant group x time interaction for collective efficacy that favored the standard group ($p=.38, 2=.02$). **Conclusions:** This brief intervention resulted in modest, non-statistically significant, increases in physical activity, with a trend toward higher moderate-to-vigorous physical activity in the intervention group compared to the standard group. Collective efficacy increased among all participants. Future studies might explore the efficacy of a longer intervention, other health outcomes associated with collective efficacy, and factors associated with changes in collective efficacy.

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D123

10:15 AM-11:15 AM

A PILOT STUDY EXAMINING THE EFFECT OF INTERPERSONAL AND INTRA-PERSONAL MOTIVATION COMPONENTS ON OLDER ADULTS' PHYSICAL ACTIVITY

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Purpose: Fall prevention interventions that emphasize leg-strengthening, balance training, and walking reduce fall risk and occurrence. However, the majority of older adults do not practice these physical activities (PA) as recommended. One contributor to this gap may be the lack of content supporting motivation within these interventions. The purpose of this study was to examine the effect of interpersonal and intrapersonal motivation interventions on PA behavior when combined with a fall-reducing PA component. **Methods:** Older adults ($n=102$) were assigned to one of four conditions (different combinations of the 3 intervention components): (a) PA only ($n = 25$); (b) PA + interpersonal motivation ($n = 26$); (c) PA + intrapersonal motivation ($n = 24$); (d) PA + interpersonal + intrapersonal motivation ($n = 27$). All participants received Fitbit Ones and comparable attention: 8 weekly meetings (90 minutes) in small groups (4-6 people). **Results:** Participants were predominantly women (75%) ranging in age from 70 to 96 ($M=79, SD = 7$): 95 completed the intervention and follow-up. Based on the Fitbit One accelerometer data, participants who received the interpersonal component of the intervention significantly increased their total minutes of PA (light, moderate, vigorous) compared to those who did not. These increases were observed both at the end of active treatment ($p < .001$) and at 6-month post-treatment ($p < .05$). There was no significant effect of the intrapersonal component on PA at either time point. Interestingly, subjective reports of PA (CHAMPS) revealed similar increases in PA levels across intervention conditions at both time points ($p's > .50$). **Conclusion:** Findings support the supplementation of fall-reducing PA interventions with content that supports interpersonal motivation. It will be important to assess potential processes of change and explore if health status or living alone moderate the impact of the interpersonal component.

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D124

10:15 AM–11:15 AM

“JUST ONE MORE EPISODE”: FREQUENCY AND THEORY-BASED PREDICTORS OF TELEVISION BINGE WATCHING

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Background: Watching television accounts for substantial leisure time spent being sedentary. The advent of online streaming TV services and box sets has led to a new phenomenon: TV binge watching. Binge watching has health implications by potentially leading to increased bouts of sedentary activity. The present study aimed to identify theory-based factors associated with binge watching behaviour. We tested whether automaticity, anticipated regret, goal conflict or goal facilitation predict levels of TV binge watching over and above social-cognitive theory variables. **Methods:** We assessed self-efficacy, proximal goals, outcome expectations, anticipated regret, automaticity, goal conflict and goal facilitation as predictors of binge watching and asked participants to self-reported their binge watching over the last week. N=110 people responded to this online cross-sectional study conducted in the UK; n=86 provided complete data. **Results:** Participants reported binge watching an average 2.42 (SD=1.42) days the previous week. Intention and outcome expectations both predicted TV binge watching, but self-efficacy did not. Controlling for factors from Social Cognitive Theory (R-square = 0.25), automaticity (delta-R-square = 0.05), anticipated regret (delta-R-square = 0.05), and goal conflict (delta-R-square = 0.04) each predicted significant additional variance in binge watching. **Conclusion:** TV binge watching is a new behaviour, which is associated not only with standard social cognitive factors, but also automaticity, anticipated regret, and perceptions of goal conflict. Interventions targeting binge watching to reduce time spent being sedentary would benefit from targeting reflective and impulsive pathways to behaviour change.

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D125

10:15 AM–11:15 AM

AN EFFECTIVE EXERCISE INTERVENTION TO IMPROVE PHYSICAL FUNCTION IN COMMUNITY-DWELLING OLDER ADULTS

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Introduction: Strategies fostering healthy aging reduce risks of diminished functional ability, loss of mobility, decreased quality of life, and loss of independence, often associated with aging. Physical activity shows potential to reduce these risks and improves physical function, and the maintenance of independence and well-being. Purpose: The purpose of this study was to examine the effects of a 3-month, instructor-led exercise class on measures of physical function in community-dwelling older adults. **Methods:** Participants were community-dwelling older adults (N=160, M_{age}=73.8±8.22 yrs) recruited from San Diego County senior centers, who volunteered for the study. Intervention (n=68, M_{age}=72.8±8.6 yrs) and control (n=92, M_{age}=74.6±7.9 yrs) participants were assigned based on demographically matched sites. Instructor-led exercise classes were offered in the intervention sites, twice a week. The 1-hour classes focused on strength, balance, flexibility, and aerobic endurance, with exercises modified for individual capabilities. Instructors were certified with backgrounds in group fitness and were specifically trained in the program content and proper biomechanics of all exercises. All participants were measured at baseline and at 3-months using 4 previously validated measures of physical function taken from the Rikli and Jones (1999) Senior Fitness Battery. **Results:** Mixed design 2(group) X 2(time) ANOVAs revealed significant interactions ($p < .05$) for all measures, with follow-up one-way RM ANOVAs indicating significant improvements in the 8-ft up and go (mobility; 12%), 6-min walk (aerobic endurance; equating to about 1/3 of a city block), 30 sec chair rise (lower body strength; 17.9%), and arm curl (arm strength, 16.5%) for those in the intervention group, while no improvements were found for controls. **Conclusions:** Exercise classes (one-hour, 2x/wk) over 3 months improved physical function, both statistically and in a clinically meaningful way compared to similar programs. These improvements may contribute to the maintenance of independent living and quality of life in older adults.

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D126

10:15 AM–11:15 AM

ARE PERSONAL CHARACTERISTICS CORRELATED WITH MEASUREMENT ERROR IN WEARABLE ACTIVITY MONITORS?

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Introduction: Wearable activity monitors are used commercially and in interventions to measure lifestyle activity. Individual characteristics may affect their accuracy. The purpose of this secondary data analysis was to identify personal characteristics that are correlated to bias error in Fitbit Flex, Jawbone Up24, and Misfit Shine. **Methods:** Healthy adults (N = 40, 41.98 years old, 20 female) participated in a monitor validation study. The study consisted of five-minute walking sessions (overland self-paced, 2.5 and 3.5 miles per hour on a treadmill) and 7-days free living. Personal characteristics included age, gender, body mass index (BMI) and cadence. Cadence was calculated two ways; the number of steps per minute during overland walking (overland cadence) and the average steps per minute across all walking sessions (average cadence). Bias error, or mean absolute percent error, was calculated from the number of steps measured by each activity monitor over the 7-days free living period compared to the criterion measure, Actigraph wGT3X-BT. **Results:** The mean BMI was 28.02 ± 5.23. The mean cadence during overland walking was 115.4±8.3 steps/min and the mean average cadence 114.2 ± 8.4 steps/min. Fitbit Flex overestimated steps by 11% while Jawbone Up24 and Misfit underestimated steps by 7% and 9%, respectively. Bias error was not correlated with any personal characteristics with one exception. Fitbit Flex bias error was correlated with the average cadence ($r = -0.43$, p **Conclusion:** Average cadence is correlated with the measurement accuracy of Fitbit Flex, but other personal characteristics are not related to bias error. Variability in device accuracy is likely driven by other, unmeasured variables. More research is needed to identify other pertinent factors in order to improve the accuracy of wearable activity monitors.

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D127

10:15 AM–11:15 AM

ASSOCIATION BETWEEN COMPLIANCE WITH PHYSICAL ACTIVITY GUIDELINES, SEDENTARY BEHAVIOR AND DEPRESSIVE SYMPTOMS

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Physical inactivity, in terms of not engaging in adequate moderate-to-vigorous physical activity (MVPA), has been identified as a risk factor for depression. The amount of time spent sedentary has further been identified as a potential risk factor for depression. We undertook an analysis of the National Health and Nutrition Examination Survey (NHANES) 2005-2006 data to examine the associations between compliance with physical activity guidelines (PAGs) and time spent sedentary with depressive symptoms. We utilized accelerometer data to assess compliance with PAGs and time spent sedentary, and we used the Patient Health Questionnaire (PHQ-9) to classify participants in the sample as depressed or not. Participants were classified as compliant with PAGs or non-compliant based on average number of minutes spent in MVPA accumulated in bouts of minutes or more. We further divided these two groups into quartiles of time spent sedentary. We conducted logistic regression analyses to test for the interaction effect of PAG compliance and sedentary behavior on presence of depression. The average depression score among those which were compliant with PAGs was 1.65 (SD=2.61) whereas it was higher among those who were non-compliant (mean=2.52, SD=3.51). There was no apparent trend in depression scores across quartiles of sedentary time in the compliant group (Q1 mean=1.47, SD=2.49; Q2 mean=1.94, SD=3.77; Q3 mean=1.53, SD=1.74; Q4 mean=1.67, SD=2.12), however depression scores increased linearly with increasing sedentary time in the non-compliant group (Q1 mean=2.38, SD=3.43; Q2 mean=2.45, SD=3.37; Q3 mean=2.53, SD=3.48; Q4 mean=2.73, SD=3.74). Logistic regression indicated a statistically significant interaction effect between MVPA and time spent sedentary, χ^2 (df=3, N=3,045) = 65,389.58, $p < 0.05$, and there was good model fit. Adjusted odds ratios for depression increased with increasing quartiles of time spent sedentary among the non-compliant group (Q1=reference group, Q2=1.44, 95% CI=1.44-1.45, Q3=2.27, 95% CI=2.26-2.27 and Q4=4.04, 95% CI=4.03-4.05); there was no effect of sedentary time in the compliant group. We provide evidence that compliance with PAGs is associated with reduced depressive symptoms regardless of sedentary behavior; however, increased sedentary behavior may increase the risk of depression among those who are not physically active at a level which meets PAGs.

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D128

10:15 AM-11:15 AM

ASSOCIATION BETWEEN PHYSICAL ACTIVITY AND PAIN COPING STRATEGIES IN ADULTS WITH DIABETES AND CHRONIC PAIN

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While the long-term benefits of physical activity (PA) in diabetes are substantial, there is evidence enhancing affective outcomes such as mood, alertness, and stress levels are more effective motivators of PA than prevention or control of disease. Bundling efforts to change PA behaviors and coping strategies may help reframe the benefits of PA to be more relevant to daily life while improving coping strategies. We examined the relationship between changes in PA and pain coping strategies in a sample of adults with diabetes and chronic pain.

The study sample was the intervention arm of a community-based, cluster-randomized controlled trial engaging adults with diabetes and chronic pain. Pain coping strategies were measured using the Coping Strategies Questionnaire-24. PA was measured using questions assessing intensity and frequency of PA, perception of one's own PA compared to others, and usual daily PA levels.

The 94 participants had mean age 60±9.9, 98% were African American, 84% were women, 72% reported income of less than \$20,000, and 65% had a high school education or lower. Increase in number of days of intense exercise was associated with improved overall coping strategies ($\beta=0.06$ [95% CI 0.02, 0.10], $p < .01$) and diversion strategies ($\beta=0.11$ [95% CI 0.03, 0.19], $p < 0.01$). Increasing usual daily activities was associated with improved diversion coping strategies ($\beta=0.37$ [95% CI 0.07, 0.67], $p < 0.01$). Increased perceived activity levels were associated with total coping ($\beta=0.23$ [95% CI 0.03, 0.43], $p < 0.05$) as well as cognitive coping strategies ($\beta=0.41$ [95% CI 0.15, 0.67] $p < 0.01$).

Increases in PA were associated with improvements in coping. Reframing the expectation of PA benefits to emphasize improvements in the ability to cope with daily stresses may be an effective strategy to promote PA, especially among people with chronic conditions like diabetes.

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D129

10:15 AM-11:15 AM

ASSOCIATIONS BETWEEN DOG OWNERSHIP AND PHYSICAL ACTIVITY AMONG BREAST, PROSTATE AND COLORECTAL CANCER SURVIVORS

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Purpose: Dog ownership has been associated with increased physical activity (PA) levels among general and chronic disease populations. Dog ownership rates in the United States and Canada are approximately 40% and 34%, respectively. There has yet to be a study that examines the associations of dog ownership and physical activity among cancer survivors.

Methods: A stratified random sample of 2062 breast, prostate and colorectal cancer survivors diagnosed between 2003 and 2011 was identified by the Nova Scotia Cancer Registry and mailed a questionnaire assessing physical activity, weekday and weekend sedentary time (ST), social-cognitive constructs, dog ownership, and demographic and medical variables. ANOVAs were used to determine differences in continuous measures and Chi-squares were used for categorical variables. **Results:** 741 completed surveys were returned and analysed. Overall, we found that about 25% of cancer survivors identified themselves as DOs. There was a borderline significant difference when examining rates of ownership among the cancer groups with breast cancer survivors more likely to be DOs (31% vs. 22% vs. 23%, $p=.054$). Additionally, survivors under 65 years of age ($p < .001$), with higher income ($p=.016$), and currently employed ($p < .001$) were more likely to be DOs. There was no significant difference between those meeting PA guidelines and those not among DOs (24% vs. 26%; $p=.50$). ANOVAs revealed total mild intensity PA minutes were slightly higher among DOs (145 minutes vs. 115 minutes), however, this finding was non-significant ($p=.105$). Weekday ST was significantly higher among DOs (7.2 vs. 6.6 hours; $p=.027$) but not weekend ST. **Conclusions:** We found the ownership rate among this sample of cancer survivors was less than the national averages previously reported in the literature (25% vs. 40% and 34%). Results among cancer survivors are similar to previous research in other populations. Future studies should use more reliable measures of PA and ST and separate DO related activity reporting.

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D130

10:15 AM-11:15 AM

ASSOCIATIONS OF DIFFERENT FORMS OF PHYSICAL ACTIVITY WITH WEIGHT STATUS IN MEXICAN-ORIGIN ADOLESCENTS

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Mexican-origin adolescents are more likely to be obese than their non-Hispanic White counterparts. Physical activity (PA) is a critical component of efforts to prevent excess weight gain, yet research is needed to determine how particular forms of PA are associated with weight status in Mexican-origin adolescents, an understudied population in PA research. We examined how sports team participation, physical education (PE), and meeting PA recommendations (at least 60 minutes of PA on five or more days of the week) were associated with obesity in 951 Mexican-origin adolescents, controlling for previous weight status and demographics. In 2010/11, participants (51% girls) were on average 16.7 years of age ($s.d.=1.13$), and 26.5% were obese (BMI for age based on measured height and weight $\geq 95\%$ percentile). Nearly three-quarters (74%) were born in the United States, though 84% of adolescents' parents were born in Mexico. Approximately 46% participated on at least one sports team in the past year, 55% attended PE at least one day per week, and 35% met PA recommendations. Logistic regression models controlled for participant age, gender, country of birth, pubertal status, and previous weight status, and parent country of birth, education, and BMI. A reduced odds of obesity was significantly associated with sports team participation ($OR=0.43$, 95% $CI=0.25, 0.73$; $p=0.002$ for ≥ 1 sports team vs. 0) and meeting PA recommendations ($OR=0.47$, 95% $CI=0.27, 0.80$; $p=0.005$ for ≥ 5 days vs. < 5 days), but not with participation in PE. Our findings suggest that achieving recommended levels of PA may protect against obesity in Mexican-origin adolescents. Additionally, ensuring opportunities for sports team participation for all youth may be an important part of obesity prevention efforts.

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D131

10:15 AM-11:15 AM

BARRIERS, MOTIVATIONS AND PREFERENCES FOR PHYSICAL ACTIVITY AMONG AFRICAN AMERICAN OLDER ADULTS

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According to the Center for Disease Control and Prevention, less than 11% of adults over the age of 65 meet the 2008 Physical Activity Guidelines for Americans. Among minority populations, only 5% of non-Hispanic Black older adults met the guidelines compared to 12% of non-Hispanic Whites. It is suggested that much of the difficulty encountered in promoting physical activity within African American urban communities seems to result from a limited understanding of psychosocial factors which impact the adoption and maintenance of physical activity programs. Thus, focus groups (FGs) were held to investigate barriers, motivators, and preferences of physical activity in urban African American older adults. Three FGs were conducted among African American older adults, FG 1 [$N=7$, 64.57 \pm 5.44, 85.7% female]; FG 2 [$N=7$, 61.86 \pm 1.77, 100% female]; and FG 3 [$N=7$, 61.29 \pm 4.19, 100% female]. Questions posed to each focus group targeted participant barriers toward physical activity as well as motivators and preferences of physical activity. FGs were recorded and transcribed. Common barriers to physical activity were: (1) pain; (2) weather; (3) and crime. Other barriers included time constraints and poor neighborhood walkability. The most prominent motivator of physical activity among the participants was the availability of group activities. Sixteen of the twenty-one participants preferred exercising in group or with a partner and agreed that social support was very important to them. Participants' motivation also depended on their level of enjoyment in the activity as well as the mental and physical health benefits associated with physical activity. These findings highlight unique challenges that need to be addressed when implementing physical activity programs for African American populations in urban communities. Future research and outreach should involve development of group based physical activity interventions with a strong emphasis on social support to promote a healthy active lifestyle among African American older adults.

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D132

10:15 AM-11:15 AM

BASELINE DATA ON HOME-BASED, INDIVIDUALLY-TAILORED PHYSICAL ACTIVITY INTERVENTIONS FOR AFRICAN AMERICAN WOMEN IN DEEP SOUTH

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African American women report high rates of inactivity and related health conditions (e.g., obesity and cancers of the breast and colon) and are in need of intervention. A 12-month Home-based, Individually-tailored Physical activity Print (HIPP) intervention was developed after intensive formative research and is now being tested in a randomized controlled trial (N=80). The sample is comprised of obese (mean BMI = 32.2, SD=5.0), post-menopausal African American women in the Deep South. Most reported household income of less than \$50,000/year (55.7%), full time employment (63.3%), and at least some college level education (64.6%). The average age was 56.7 years old (SD= 4.59). Participants reported an average of 28 minutes/week (SD=30.97) of moderate intensity physical activity and were in the contemplation and preparation stages of change for physical activity (95%) at baseline. Participants described more pros than cons to physical activity (based on decisional balance scores >0, M=2.04, SD=1.15) and high baseline self-efficacy (M=2.94, SD=.98), cognitive (M= 3.47, SD=.81) and behavioral (M=3.12, SD=.69) processes of change, and outcome expectations (M=4.2, SD=1.0, ranges= 1-5, with higher scores representing more self-efficacy, processes, and outcome expectations). Baseline levels of enjoyment (M=94.71, SD=22.96, range=18-126), and social support for physical activity were promising, perhaps more so for family (M=35.12, SD=12.74) than friends (M=32.06, SD=12.9, range=0-65 for both subscales, with higher scores indicating more enjoyment and social support). Baseline data confirm that the sample is in need of intervention due to high rates of obesity and low levels of physical activity. Moreover, scores on psychosocial measures suggest that such efforts may be well received. This line of research in low cost, high reach technology-based approaches promoting physical activity in African American women in the Deep South has great potential to address health disparities and impact public health.

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D133

10:15 AM-11:15 AM

BIOMARKER AT BASELINE PREDICTS NEUROPSYCHOLOGICAL EFFECTS OF A SINGLE BOUT OF EXERGAMING FOR OLDER ADULTS: THE ACE PILOT STUDY

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Objective: Prior research has shown that exergaming, interactive virtual reality enhanced aerobic exercise, yielded greater cognitive benefit than exercise alone for older adults (Anderson-Hanley et al., 2012). This Aerobic and Cognitive Exercise (ACE) pilot study, explored biological factors related to cognitive benefit of exercise for older adults. Prior research has suggested C-reactive protein (CRP) and brain derived neurotrophic growth factor (BDNF) may be important biomarkers linking physical exercise with changes in cognition and the brain. **Participants and Methods:** Older adults were recruited at multiple sites to exercise using virtual reality enhanced stationary bikes. Participants completed cognitive tests before and after a single bout and three months of exercise. Tests of executive function were administered pre- and post-exercise: Color Trails, Stroop & Digit Span. Fasting blood was drawn prior to exercise and after 3 months. **Results:** Eleven older adults (mean age = 85.1; SD = 9.1) completed three months of exercise and had provided blood samples pre and post. ELISAs were conducted to examine CRP and BDNF levels in relation to cognitive outcomes. The standard curve of CRP was sufficient for interpretation and revealed that baseline CRP was significantly related to change in executive function (Color Trails 2) after a single bout of exercise ($p = .006$, controlling for age and education). No significant relationship was found for CRP and cognitive outcomes after three months of exercise. **Conclusions:** In a pilot sample of older adults exergaming, serum CRP at baseline was found to be significantly related to the change in executive function after a single bout, but not at three months. It may be that this biomarker indicates the status of neurobiological substrate and processes, which is indicative of readiness to benefit from the link between physiological exercise and cognitive outcomes. Additional research is needed to replicate and extend this research.

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D134

10:15 AM-11:15 AM

BRAIN BLASTERS: A PILOT STUDY DESIGNED TO ENHANCE THE UTILIZATION OF CLASSROOM PHYSICAL ACTIVITY

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Background: Individual classroom physical activity (PA) resources have shown to be effective in improving on-task behavior, academic outcomes, and overall PA in elementary-aged children. However, teachers may not be aware of the numerous free or low-cost resources available to support PA. Given teachers report time as a barrier to implementing and learning about classroom PA, gaining an understanding of how to best promote these resources may increase teachers' knowledge and improve their utilization of classroom PA. **Purpose:** To determine the best method for disseminating information of existing classroom PA resources. **Methods:** The Brain Blasters pilot was developed based on feedback from teachers in five school districts. To understand the best method for delivering information about classroom PA resources, teachers received weekly resources via e-mail and classroom mailbox with information on a "resource of the week"; videos of surrounding area teachers implementing classroom PA; and updates on the Brain Blaster facebook page. The project was piloted in two elementary schools. After the completion teachers (n=16) were asked to participate in a six-question survey. A sample of teachers (n=6) completed a brief follow-up interview. **Results:** Overall, follow-up survey results indicated most teachers found at least one method of delivery useful. Teachers noted weekly e-mails (81.3%), mailbox materials (73.3%), and videos (68.8%) were useful. Only 18.7% of teachers felt the facebook page was a useful resource. Importantly, teachers in one school reported the videos were most useful while teachers in the other school differed between videos, e-mails, and mailbox resources. A third of teachers stated time inhibited their ability to view and/or utilize the materials. **Conclusion:** According to the findings, several methods may be useful for disseminating information regarding classroom PA resources. School personnel within a specific school should be consulted when determining the best method(s) for delivering resources within that school.

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D135

10:15 AM-11:15 AM

BREEDING PHYSICAL ACTIVITY: THE RELATIONSHIPS BETWEEN DOG CHARACTERISTICS, DOG OWNERS' MOTIVATIONS, AND REGULAR WALKING

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Objective: Regular dog walking is likely a symbiotic relationship between the needs of the dog and its owner. This relationship has seen limited attention. The purpose of this study was to examine the relationships between dog characteristics, dog owners' perceptions of responsibility and attachment to their dogs, and the qualities of dog owner exercise motivations (self-determined regulations) with walking behavior. **Method:** Participants were 228 adult dog owners who completed an online survey that included demographics, dog walking, dog responsibility/attachment and exercise regulations. **Results:** Using mediation procedures, the results showed that the owner's sense of dog walking responsibility and walking relationship was completely mediated by identified (indirect $\beta = .06$; CI = .02, .17) and intrinsic ($\beta = .05$; bootstrapped lower CI = .01, .15) regulations but these regulations could not account for substantial variance in the dog-related factors. Instead, intrinsic regulation ($\beta = .27$), identified regulation ($\beta = .20$), dog size ($\beta = .23$), and energy level of the dog ($\beta = .13$) all contributed to explain 30% of walking behavior. **Conclusion:** A sense of responsibility to walk the dog, generally the most reliable correlate in past dog walking research, appears to align with more self-determined forms of motivation than controlled. The findings, however, support the premise that dog walking behavior may be a complex mix of human and dog-related factors. This dog and owner relationship may need consideration for successful future dog walking promotion initiatives.

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D136

10:15 AM-11:15 AM

COMMUNITY BASED PARTICIPATORY RESEARCH APPROACH TO ACTIVE LIVING IN LATINO AND AFRICAN AMERICAN COMMUNITIES

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Background: Delaware's African Americans and Latinos are at an increased risk for health disparities. They have higher diabetes prevalence than their Caucasian counterparts. This formative study examined perceptions of active living. **Methods:** 48 Latinos (45 female & 3 male) and 63 African Americans (40 female & 23 male) participated in focus groups (n=12). Focus groups were conducted separately for each population. Participants defined active living in their community, barriers to active living, identified physical activity that they would enjoy, and organizations that would support an active living community. Data were transcribed verbatim and thematically analyzed. 4 focus groups were conducted in Spanish and translated after transcription. Three project staff independently and iteratively coded transcripts. **Results:** Both Latinos and African Americans described active living as moving, working and exercising. African Americans included working in the community and taking medications and Latinos mentioned walking and not sitting as active living. Common barriers to active living expressed by both groups were laziness, lack of education, time, and transportation; while African Americans identified cultural habits, lack of support networks, costs, limited programs, and safety and Latinos mentioned lack of motivations and language as barriers to active living. Organizations that would support active living efforts include YMCA, churches, parks, and Libraries. African Americans discussed senior centers, Girls and Boys Clubs and Latinos mentioned hospitals and the Latin American Community Center. Activities that both groups would enjoy include walking, running, and outdoor sports; dancing and group activities were discussed in African Americans and going to the park was something Latinos would enjoy. **Conclusion:** Program planning to increase active living in these populations in Delaware should address the barriers derived from the focus group specific to each population. Educating community members about how they can become more active and using culturally appropriate activities including Spanish speaking instructors with Latinos and incorporation of teams with in the community centers and churches may help facilitate these programs.

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D137

10:15 AM-11:15 AM

COMPLIANCE AND ADHERENCE TO AN EXERCISE TRAINING PROGRAM IN AFRICAN AMERICAN MEN: THE ARTIIS STUDY

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Community based interventions can only be effective if participants adhere to the study prescription. An aim of the Aerobic Plus Resistance Training and Insulin Resistance in African American Men (ARTIIS) study was to achieve high levels of compliance and adherence to an exercise training intervention conducted in community facilities.

ARTIIS was a 5 month study that randomized 113 men to a healthy living control (HL) or an exercise training (ART) arm. The information herein applies only to the men randomized to the ART. Participants in the ART engage in 150 minutes of moderate intensity aerobic training and 2 days of resistance training, in accordance with the current national guidelines. All exercise sessions were conducted at local YMCA facilities. The men were required to exercise 3 days/week: one with a YMCA fitness instructor and two on their own. Compliance was defined as the percent of the three aerobic and two resistance training sessions attended per week. Adherence was defined as the percent of the required 150 minutes of aerobic exercise and 2 sets of 9 resistance training exercises performed each week.

There were 57 men who were randomized to the ART arm (age=50.5 ± 9.6, BMI=31.7 kg/m² ± 5.0, 66.7% married, 76.8% college educated). The compliance with the aerobic and resistance training prescriptions were 77% and 79%, respectively. The adherence to the aerobic and resistance training prescriptions were 76.4% and 80.4%, respectively. Between 65% and 68% of men achieved ≥80% compliance and adherence, respectively. Participants older than 50 had higher odds of compliance/adherence (p = 0.0435).

These findings demonstrate that an exercise training intervention (distinguished from group based behavioral intervention) in African American men can be successfully implemented in the community, providing a generalizable model. Long-term adherence is the next challenge for this type of program.

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D138

10:15 AM-11:15 AM

COPING STYLES: CROSS-SECTIONAL AND PROSPECTIVE RELATIONSHIPS WITH ALCOHOL USE AND EXERCISE

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Exercise and alcohol use are behaviors used to deal with life stressors, and commonly occur. The aim of the current study was to examine the cross-sectional and prospective relationships between different coping styles with alcohol use and exercise. We hypothesized that stronger endorsements of more positive coping styles would predict greater exercise while stronger endorsements of more negative coping strategies would predict greater alcohol use. In an on-going study, participants (N=75) reported their regular drinking and exercise behavior at a baseline (T1) and two-week follow-up (T2) session. The Brief COPE (Carver, 1997), which yields 14 coping style subscales, was also administered at T1. Correlations at T1 of the COPE subscales with exercise and alcohol use revealed that the planning coping (PC) and active coping (AC) subscales were related to more exercise minutes over the past week ($r=.30$ and $.24$, respectively, $ps < .05$). Substance use (SU) and self-blame (SB) subscales were related to more drinks in the past week ($r=.41$ and $.24$, respectively, $ps < .05$), and SU was also related to drinking more often in the past week (i.e., number of drinking episodes; $r=.39$, $p=.001$). Based on the cross-sectional outcomes at T1, we computed independent regressions predicting exercise and alcohol use over the past week at T2. AC ($\beta=.25$, $p=.05$) and PC ($\beta=.31$, $p=.02$) predicted greater exercise minutes. Both SU ($\beta=.42$, $p=.001$) and SB ($\beta=.29$, $p=.03$) predicted drinking more often. Simultaneous regressions including all four coping styles revealed that only SU was predictive ($\beta=.37$, $p=.007$) of drinking more often when controlling for the other coping mechanisms. Independent coping style predictors were similar at T1 and T2. Thus, high scores on more negative coping styles may be indicative of increased drinking while high scores on more positive coping styles may be indicative of greater exercise. Although these data are correlational, these outcomes may have implications for enhancing specific coping styles in order to encourage more healthy behaviors.

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D139

10:15 AM-11:15 AM

CULTURAL RELEVANCE OF THE TRANSTHEORETICAL MODEL IN PHYSICAL ACTIVITY PROMOTION: LATINAS' USE OF THE PROCESSES OF CHANGE

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Introduction: Latinas in the U.S. have disproportionately high rates of obesity and health disparities related to insufficient physical activity (PA). One of the most commonly used behavioral theories in interventions to promote PA is the Transtheoretical Model (TTM), a theoretical framework originally developed for use in smoking cessation. Despite the broad use of the TTM in PA research, there is a lack of evidence to support the effectiveness of this model for the cultural relevance of theoretical constructs- specifically the Processes of Change, for promoting PA and advancement through the Stages of Change in Latinas. The purpose of our study was to learn about the Processes of Change for promoting PA that are used and interpreted as salient to young Latina mothers. **Methods:** We conducted focus groups with overweight or obese Mexican/Mexican-American females (N=13), ages of 27-40 years. The focus group questions elicited information about participants' use of the Processes of Change for increasing PA. **Results:** Major themes centered on the importance of children and family caretaking, social support from family and close friends, and PA to promote weight loss. Participants identified strategies they use to enact the Processes of Change for increasing PA such as *retos*, or challenges, with friends and family members to increase PA and lose weight, using exercise as an alternative to eating, and clothing a rewards and reminder for PA and weight loss. **Discussion:** This focus group was one of the first to examine culture-specific factors, both personal and environmental, used by young Latina mothers for becoming more physically active as they correspond to the theoretical constructs of the TTM, one of the most widely used theories in PA research. We found that the Process of Change examined in our study are 1) culturally relevant in the participant's defining and interpreting them, 2) are enacted by Latinas for increasing PA, and 3) are poised to be deployed in culturally appropriate PA promotion and weight loss interventions.

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D140

10:15 AM-11:15 AM

DIFFERENCES IN SOCIAL-COGNITION BETWEEN ACTORS, INTENDERS, AND NON-INTENDERS WITH BACK PAIN

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Purpose: This study investigated the strength of social-cognitions and physical activity participation between actors, intenders, and non-intenders in the back pain population. **Research Method/Design:** 350 men and women with back pain were classified as actors ($n = 150$), intenders ($n = 111$), and non-intenders ($n = 89$). Cross-sectional survey methods assessed the motivational and volitional constructs of the Health Action Process Approach (HAPA), physical activity participation, and back pain-related variables. **Results:** Significant between-groups differences for all HAPA constructs, physical activity participation, and selected back pain-related variables exist. For PA intentions, action self-efficacy, and action/coping planning, actors score significantly higher than intenders, who score significantly higher than non-intenders. Non-intenders have lower outcome expectancies than both actors and intenders ($p < .0001$). Actors perceive themselves to be at less risk than both intenders and non-intenders ($p = .010$). Actors spend more time in vigorous, moderate, and light physical activity than both intenders and non-intenders ($p < .0001$). Actors also spend less time in sedentary behavior than both intenders and non-intenders ($p = .005$) and are more likely to seek invasive medical care than both actors and intenders ($p < .05$). **Conclusions/Implications:** There are differences in social-cognitions, physical activity participation, and back pain-related variables between actors, intenders, and non-intenders. These differences support the underlying assumptions of the HAPA that there are different stages an individual passes through before adopting a behavior change. These findings provide insights for the development of HAPA-based interventions in the back pain population.

Keywords: Back pain, health action process approach, physical activity

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D141

10:15 AM-11:15 AM

DO "POSTURE" AND "ACTIVITY" MATTER? PSYCHOLOGICAL REACTIONS TO SEDENTARY BEHAVIOUR

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Since 2000, a large body of evidence has linked sedentary behaviour (SB) to increased risk of morbidity and mortality, independent of physical activity. Though commonly equated to "sitting", empirical work (e.g., Sedentary Behaviour Research Network, 2012) conceptualises SB as possessing three necessary traits: that is, SBs are (1) waking activities characterised by (2) low energy expenditure and (3) a seated/reclining posture. This definition raises a key implication for researchers interested in SB psychology: SB is not a singular behaviour to be understood, but rather a diverse collection of activities united by their *postural* and *energy* components. To date, no psychological research has overtly explored this "activity/posture" distinction, including how it may impact methodology and intervention strategies. With this in mind, the purpose of the current study was to examine the effect of activity type and posture on individuals' social cognitions regarding SB engagement. University students ($N=577$) read four randomly-presented vignettes that varied along two domains: activity (studying/watching TV) and posture (sit/stand). After each vignette, they completed measures of self-efficacy (SE), physical and psychological outcome expectancy (OE), anticipated engagement (AE), and anticipated satisfaction (AS). MANOVA revealed significant main effects for activity and posture, $ps < 0.001$. For activity, follow-up ANOVAs with Bonferroni correction found significant differences in OE, AE, and AS, $ps < 0.05$, with watching TV viewed more favourably than studying. For posture, significant differences were found in SE, OE, AE, and AS, $ps < 0.05$, with sitting viewed more favourably than standing. Cohen's effect sizes indicated small to medium differences, $ds = 0.19$ to 0.49 . Results support Pate et al (2008), who emphasised the importance of carefully defining and measuring SB surrogate behaviours in health research. For SB psychology, it may be important to articulate both posture and activity variables to participants. Results also raise questions for behaviour change: what activities are most amenable to SB reduction via posture change?

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D142

10:15 AM-11:15 AM

DOES CHANGE IN TIME ON-TASK VARY BY LEVELS OF PHYSICAL ACTIVITY INTENSITY AMONG FOURTH-GRADE STUDENTS?

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Background: Physical activity (PA) interventions administered during elementary class time increase chances for children to meet PA guidelines and improve academic performance. Research suggests that PA is positively associated with the amount of time a student is on-task in the classroom (TOT). Less is known about whether the intensity of PA is associated with TOT. This study examines whether 1) students in PA intervention conditions exhibit increases in TOT relative to controls and 2) PA intensity is associated with change in TOT from pre- to post-test. **Method:** Participants included 714 fourth-graders from 9 central Texas schools (m age=9.6; 50.1% female; 43.9% white; 34.5% low SES). Intervention schools received either physically active language arts (LA) or math lessons, while control schools received standard instruction. Percent of time spent in light, moderate, and vigorous PA was assessed during one physically active lesson or during standard instruction. Students' TOT was observed by trained staff for 15 min prior to the lesson, as well as for 15 min post-lesson. Gender and race (white vs non-white) were taken from FITNESSGRAM data provided by schools. Students' eligibility for free or reduced lunch determined SES status (high or low). **Results:** Students participating in physically-active math lessons exhibited the largest increases in TOT, relative to those in LA or control conditions ($F(2,577)=6.03$, $p=0.003$). Students in the math condition also spent the largest percent of time in moderate PA, relative to LA or control ($F(2,711)=72.61$, $p < 0.001$). Overall, percent of time spent in moderate PA was positively associated with greater improvement in TOT scores ($B=0.67$, $p=0.04$). There were no associations between sedentary, light, or vigorous PA intensities and TOT change scores ($p>0.05$). **Conclusion:** In order for young students to obtain cognitive and academic benefits from interventions involving physically active, academic lessons, it may be necessary to ensure a moderate intensity. Future research should prescribe specific intensity levels to ascertain their impact on student TOT.

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D143

10:15 AM-11:15 AM

DOES SOCIAL CONTACT PROMOTE PHYSICAL ACTIVITY AMONG WOMEN? WITHIN-PERSON ANALYSIS DURING A SIX-WEEK SOCIAL INTERVENTION

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When online social networks are incorporated into physical activity (PA) programs, more frequent interaction is associated with better PA outcomes. Yet this evidence is limited to the total number of contacts (i.e., posts to a message board) and overall PA change. This research does not indicate whether individual differences or intervention effects drive this relationship. Time-sensitive analysis between social contact and outcomes is needed to determine whether participants do better *when* they have more frequent interaction. This study examined within-person associations between social contact and PA in a 6-week online PA program ($n=20$ women, $M_{age}=50$, $M_{BMI}=30.9$ kg/m²). Participants used wearable PA sensors and contacted one another via the sensor's private online community. Participants saw each others' PA data, posted to/read a group message board, and contacted assigned partners for added support. Self-reported message board viewing and partner communication each occurred twice per week ($M=2.48$ and 2.09). Posting to the group message board occurred once per week ($M=1.03$). Multilevel mixed models showed that, controlling for nonsignificant between-person (i.e., average) frequency of contact, weekly within-person variability in contact was positively related to PA. During weeks when viewing/posting were higher than a participant's average, steps per day also were higher than average ($ps < .03$). Viewing/posting one extra time per week was associated with 283 and 669 additional steps per day, respectively. Aerobic PA also was higher during weeks when partner communication/viewing were more frequent than a participant's average ($ps < .04$); increases in partner communication/viewing by one time per week were associated with 2.17 and 2.14 additional minutes of aerobic PA per day. Importantly, steps were marginally higher following weeks when partner communication was more frequent ($p=.06$); an additional partner contact predicted 241 greater steps per day during the subsequent week. These findings provide time-sensitive, preliminary evidence that PA-based social contact is beneficial for promoting PA, as one additional social contact per week was associated with an additional 5-7% of recommended daily PA levels.

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D144

10:15 AM-11:15 AM

EFFECTS OF GAIT SELF-EFFICACY ON COMPLEX TASK PERFORMANCE IN OLDER ADULTS: THE ROLE OF PHYSICAL MOBILITY

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Research has demonstrated direct and indirect effects of self-efficacy on older adults' self-reported functional limitations through physical function. Few studies have tested this model using objective measures of everyday task performance. The present study examined direct and indirect effects of gait self-efficacy on older adults' performance on a street crossing task. We hypothesized that self-efficacy would influence street crossing performance directly and indirectly through physical mobility. Participants were 178 older adults (Age=65±4 years). Gait self-efficacy, mobility, and task performance were assessed using the Gait Self-Efficacy Scale, a stair climb test, and a virtual reality street crossing simulation, respectively. Participants completed 20 street crossing trials without distraction (single-task) and 20 trials while talking on a cell phone (dual-task). Outcomes included single- and dual-task success ratio and average crossing duration. Path analyses were used to test the effects of gait self-efficacy on street crossing performance directly and indirectly through mobility. Hypothesized covariates (body mass index [BMI], age, gender, cardiorespiratory fitness [CRF]) were tested in all models. BMI, CRF, and self-efficacy significantly predicted mobility, $p < .05$. Mobility significantly predicted all street crossing variables, $p < .03$, except for dual-task crossing duration, $p = .10$. Direct and indirect effects of self-efficacy on single-task success ratio were observed, $\beta = .19$, $p = .01$ (direct), $\beta = .08$, $p = .01$ (indirect through mobility). These effects became stronger in the dual-task model, $\beta = .21$, $p = .004$ (direct), $\beta = .10$, $p = .001$ (indirect). Self-efficacy's effect on single-task crossing duration was indirect through mobility, $\beta = .006$, $p = .03$. Neither self-efficacy nor mobility predicted dual-task crossing duration. However, BMI, age, and gender were directly associated with dual-task crossing duration, $p < .05$, such that younger individuals, males, and those with lower BMI had faster crossing times. Results support and extend previous research in translating an evidence-based framework of self-efficacy, physical function, and functional limitations to performance on a complex activity of daily living. Further research is needed to examine longitudinal relationships after a physical activity intervention.

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D145

10:15 AM-11:15 AM

ENGINEERING SOCIAL NETWORKS FOR PHYSICAL ACTIVITY: OUTCOMES AMONG FACEBOOK USERS AND NONUSERS

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Background: Physical activity interventions that use social media sites are expanding rapidly. As approximately 40% of US adults do not regularly use Facebook or other social media sites, it is important to determine if such adults can be engaged in, and benefit from, social media interventions. No prior clinical trial, to our knowledge, has examined the effects of baseline levels of social media use on objectively measured user engagement and physical activity outcomes. **Methods:** We investigated the effects of baseline Facebook use among 104 sedentary adults enrolled in a larger 12-week randomized controlled trial to build social networks for physical activity, with 9-month follow-up. Facebook users were defined as those self-reporting Facebook membership and using Facebook at least weekly. Objectively coded participation in 5 experimenter-designed online social networking activities was tracked through the program (e.g., contributing to online discussions, posting and joining participant-led walking events). Moderate-to-vigorous physical activity (MVPA) was measured with Actigraph accelerometry. ANCOVA and multi-level linear mixed effects models, adjusted for demographics, were used to evaluate if Facebook users differed from non-users on participation in social networking activities and MVPA change. **Results:** Participants were 50.5±8.0 years, 39.4% male, 14.4% non-white, and had a BMI of 29.6±4.8; 55.4% were Facebook users. Facebook users, when compared to non-users, performed a mean of 2.7±1.3 vs. 1.5±1.2 of the 5 online networking activities, Cohen's $d = 0.96$, $p < 0.001$. There was no difference between Facebook users and non-users in MVPA change over time (group-by-time interaction effect, $p = 0.70$). **Conclusions:** Facebook users had greater participation than non-users in online social networking activities, but similar physical activity change at 9-month follow-up. As participation in social networking activities was relatively low among all users, future social media interventions should include components to promote adequate use of social media.

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D146

10:15 AM-11:15 AM

ENVIRONMENTAL MODIFICATIONS IMPACT PERCEPTIONS OF SAFETY AND INTENT TO BE ACTIVE

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Background: Research indicates that the natural and built environments impact physical activity through a variety of mechanisms including perceived safety. **Purpose:** This study aimed to identify which of several relatively low-cost environmental modifications impact individuals' perceptions of safety and activity intentions. **Methods:** 140 2- and 4-year college students (mean age 21.4 years; 73.6% female; 87.9% white non-Hispanic) viewed 11 photos one at a time on a computer and responded to two questions about each photo: 1) how likely are you to be active in a place like this? and 2) how safe would you feel in this place? Respondents selected a numeric response ranging from 1 = not at all [likely/safe], to 7 = very [likely/safe]. Two sets of the photos were employed in the task – one in which each photo included a modifiable environmental feature hypothesized to enhance feelings of safety and/or activity intentions (e.g., debris removed from a park, paint added to a stairwell) and one set in which the same environments were shown without the modifications. Participants were randomized to view only one version of each photo pair. *t*-tests compared ratings of safety and activity intentions between the two versions of each photo. Age, sex, and race/ethnicity were self-reported. **Results:** Of the 11 environmental modifications tested in this study, 2 significantly ($p < .05$) increased perceived safety (fixing cracked pavement, painting a stairwell a brighter color) and 6 increased intent to be active (fixing pavement, painting stairwell, removing debris, adding a small pavilion to a park, removing an open garbage can, adding a dog running through a park). Non-significant changes included adding a park bench, a lamppost, and a recycling bin. **Conclusions:** A variety of relatively low-cost interventions (e.g., painting, picking up debris) can make indoor and outdoor physical environments (e.g., stairwells, parks) seem safer and more appealing for physical activity. Pre-testing environmental modifications via manipulated photos can help to identify which seemingly promising strategies actually impact perceptions/intentions, and which may not have the desired effect.

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D147

10:15 AM-11:15 AM

EXAMINING REASONS TO EXERCISE AND RACIAL DIFFERENCES IN PHYSICAL ACTIVITY

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Research shows many reasons to engage in physical activity (PA) including pleasure, competition, social recognition, and to manage stress, mood, and weight. Yet it is unknown which reasons predict higher PA levels. This may be helpful as only 20.4% of adults meet PA guidelines, with significant variance across races. Minorities show significantly lower rates of PA due to barriers of safety, availability, cost, health, time, motivation, education, SES, and unfavorable attitudes about PA. This study explores which reasons to exercise (RTE) are associated with vigorous PA (VPA) and explore racial disparities.

Undergraduate students (UGS; N= 290, 79.3% female, 62.1% White, age=19.3) were recruited for course extra credit at a Northeastern college. Participants completed consent and measures including a demographic report, amount of PA, and Exercise Motivations Inventory-2 (measuring RTE), as part of a larger study.

Correlations show RTE of Stress Management (SM; $r = .20$; $p = .001$), Social Gain (SG; $r = .31$; $p = .000$), and Physical Fitness (PF; $r = .12$; $p = .042$) are linked to VPA; Linear regressions reveal SM ($F(1,273) = 11.4$, $p = .001$, $R^2 = .04$), SG ($F(1,273) = 29.4$, $p = .000$, $R^2 = .09$) and PF ($F(1,273) = 4.2$, $p = .042$, $R^2 = .02$) predict engaging in more VPA. Independent T-tests show that White UGS engage in more VPA ($t(274) = 2.66$, $p = .008$) and report SM as a RTE more than minorities ($t(271) = 2.12$, $p = .035$).

Results found that UGS with RTE of SM, SG, and PF are most likely to engage in VPA. Future studies should explore what about these RTE lead to higher levels of PA. The finding that White UGS report more SM and VPA highlights the role of SM as a reason for unequal PA levels. This should be investigated further as it may be related to multiple social and systemic disparities faced by minorities, preventing the use of PA to manage stress. Findings contest the hypothesis that PA variances may be due to education, as these UGS are in the same college. Future directions should explore barriers to minority UGS' engagement in PA and discuss culturally tailored individual and systemic promotion of healthy behaviors.

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D148

10:15 AM-11:15 AM

EXAMINING THE VALIDITY OF THE FITBIT FLEX AGAINST ACTIGRAPH ACCELEROMETRY

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Accelerometers such as the ActiGraph-GT3X (AG) enable researchers to objectively measure PA behavior and are considered the “gold standard” of PA assessment. Wearable PA tracking devices such as Fitbit (FB) appeal to consumers and researchers alike due to their low cost, user-friendly applications, and potential for improving health; however, no studies to date have examined the validity of the wrist-worn FB Flex. This study examined the validity of the FB-Flex compared to AG for measuring energy expenditure (EE), metabolic equivalents (METs), step-counts, and minutes of light, moderate, and vigorous PA under free-living conditions. Young adult males ($n=3$) and females ($n=14$) wore FB and AG simultaneously during waking hours over 7 consecutive days; wear-times were synched between devices. Data were aggregated to hourly and daily estimates, resulting in 221 person-days. Correlations and t-tests assessed the relationship between estimates garnered from both the FB and AG. Correlations between FB and AG were significant but weaker than expected for steps (.660), EE (.613), METs (.433), and minutes in moderate and vigorous PA (.451 and .509, respectively) ($p < 0.035$). Paired t-tests revealed that EE, steps, METs, and minutes of moderate and vigorous PA were not significantly different ($p \geq .254$). PA measures collected by FB and AG differ when data are stratified over consecutive hours and days; yet when examining variable associations by exercise type, FB and AG are similar. Possible reasons for this finding include the proprietary laws that protect Fitbit from releasing the algorithms used to identify activity cut-points and for determining estimates of EE, steps, and METs. Research is needed to examine data variability at different PA levels, particularly light intensity activities. Additional analyses are being conducted and results regarding the validity of FB-Flex are forthcoming.

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D149

10:15 AM-11:15 AM

EXERCISE GOAL ACKNOWLEDGMENT'S POSITIVE EFFECT ON SHORT-TERM EXERCISE PERFORMANCE

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Regular physical activity has been shown to have substantial physical and mental benefits, yet a low percentage of Americans meet physical activity recommendations. Goal setting can increase physical activity, but may be impacted by underexplored social factors. This study examined the role that another person, apart from the goal-setting exerciser, can have on physical activity goal pursuit. College students ($n = 143$) participated in a controlled experiment. A researcher demonstrated four exercises (push-ups, planks, jumping jacks, and single-leg balancing), after which participants set personal goals regarding their own imminent performance of these exercises. Participants were randomly assigned to one of three conditions: 1) private goals: participants set goals and did not share them with experimenter; 2) acknowledged goals: participants' goals were positively acknowledged by experimenter; 3) unacknowledged goals: participants gave their goals to an experimenter who did not provide acknowledgment. A significant effect of condition on performance and goal-attainment was seen for planks and a significant effect of condition on goal-attainment was seen for pushups. No significant effects were seen for jumping jacks or balancing. For planks, participants with private goals held this exercise for an average of 79.0 seconds (+9.4 average difference from goal to result), 88.2 seconds for participants with acknowledged goals (+20.2), and 77.1 seconds for participants with unacknowledged goals (+7.5). In addition to participants with acknowledged goals having significantly higher raw averages and goal-to-result differences, 87.5% of participants in this condition met their goal relative to 76.2% for participants with private goals and 67.4% for participants with unacknowledged goals. A significant difference was also seen for pushup goal-attainment; participants with private goals and acknowledged goals had significantly higher goal-attainment rates (90.7% and 89.6%, respectively) than did participants with unacknowledged goals (74.5%). Results indicate positive effects of goal acknowledgment on subsequent goal-attainment and exercise performance and also suggest negative effects of having goals that could be acknowledged go unacknowledged.

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D150

10:15 AM-11:15 AM

EXERCISE PROGRAM ENHANCES QOL, SOCIAL SUPPORT, EXERCISE ENJOYMENT, AND ADL PERFORMANCE IN CANCER CAREGIVERS.

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Diminished quality of life (QOL) and activities of daily living (ADL) performance are common in cancer patients undergoing treatment; however, those serving in a caregiver role often experience detriment, as well. Data related to cancer caregivers involved in exercise interventions are scant, particularly when the patient they care for is in treatment. **PURPOSE:** The purpose of this investigation was to study QOL, social support, exercise enjoyment, fatigue, and ADL performance in cancer caregivers undergoing an exercise intervention while the patient they cared for was undergoing treatment (chemotherapy), relative to a group of controls not participating in structured exercise while serving in a caregiver role. **METHODS:** Group X ($n = 17$) were individuals assigned to a personal trainer who created and monitored 12 weeks of exercise sessions (two sessions/week). The sessions were 60 minutes in length and consisted of a combination of aerobic, resistance, balance, and flexibility exercise. Group NX ($n = 15$) were caregivers not participating in structured exercise. All participants were assessed pre and post on a variety of ADL (timed tests), and questionnaires related to QOL, exercise enjoyment, social support, and fatigue. **RESULTS:** Group X showed significant improvement two ADL tasks: sit to stand (-3.7 s; $p = 0.032$) and stair climb/descent (-6.8 s; $p = 0.002$). They also improved on QOL (+4.7; $p = 0.035$), social support (+3.1; $p = 0.041$) and exercise enjoyment (+5.7; $p = 0.027$). All group NX variables values remained level except for declines in lift and carry (+9.6 s; $p = 0.036$), QOL (-3.1; $p = 0.001$), social support (-2.6; $p = 0.035$) and fatigue (+2.7; $p = 0.032$). **CONCLUSION:** This study shows that carefully and individually prescribed exercise can lead to positive outcomes in ADL performance, as well as a variety of psychosocial variables in cancer caregivers whose loved ones are undergoing treatment. It is hoped that these findings will lead to increased focus on this oft neglected population.

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D151

10:15 AM-11:15 AM

EXPLORATION OF EXERCISE OUTCOME EXPECTATIONS AMONG BREAST CANCER SURVIVORS

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For breast cancer survivors, remission does not always equate to a return to pre-diagnosis health, functioning, and quality of life. Survivors may endure physical, psychological, emotional, social, and spiritual challenges for up to 10 years after treatment. Exercise has been shown to decrease many of these effects. The American Cancer Society recommends that cancer survivors engage in at least 150 minutes/week of moderate-intensity or 75 minutes/week of strenuous intensity exercise. However, only 17% – 37% of breast cancer survivors in the US meet these recommendations.

A critical step in increasing exercise among survivors is understanding what outcomes they expect from exercise, that is outcome expectations (OEs). OEs refer to what people expect to obtain or avoid by engaging in a behavior. OEs are highly influential in predicting health behaviors and are thus central to key theoretical frameworks of health behavior change. Among non-cancer populations, individuals who expect more positive and less negative outcomes are more likely to exercise.

Little is known about OEs among breast cancer survivors. Identification of more and less recognized OEs will illuminate which OEs to reinforce and which to introduce. The purpose of this mixed-method descriptive design study is to explore common exercise OEs among breast cancer survivors and develop a deeper understanding of their exercise beliefs, in preparation for a future intervention study. Twenty breast cancer survivors were recruited from an academic tertiary care center. Semi-structured telephone interviews were conducted to assess exercise OEs and how the experience of cancer and its treatment influenced expected outcomes of exercise. The interviews contained open and closed-ended questions followed by an exercise outcome expectation questionnaire. Qualitative data were analyzed using a summative content analysis procedure; means were calculated for each item of the exercise outcome questionnaire. The qualitative and quantitative data were compared and contrasted. Three themes emerged from the interviews: 1) prevalence of common expectations, 2) pervasive impact of fatigue, and 3) a brighter future. Findings revealed that overall, breast cancer survivors have low levels of agreement that exercise may mitigate several significant late and long-term cancer and treatment effects, including recurrence risk.

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D152

10:15 AM-11:15 AM

EXPLORING EXPECTATIONS OF EXERCISE PROMOTION BY HEALTHCARE PROVIDERS AMONG PERSONS WITH MULTIPLE SCLEROSIS.

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Background: There is growing recognition of the benefits and safety of exercise and its importance in the comprehensive care of persons with multiple sclerosis (MS). Nevertheless, persons with MS are not engaging in sufficient amounts of physical activity. The interaction between the patient and healthcare provider represents an opportunity for promoting exercise in MS. This study explored the needs and wants of those with mild-to-moderate MS regarding exercise promotion through healthcare providers. **Material and methods:** Fifty persons with mild-to-moderate MS completed a semi-structured interview about needs and wants regarding exercise promotion through healthcare providers. The data were analyzed using Interpretative Description Methodology. **Results:** Patients reported (a) wanting promotion of exercise during healthcare provider visits through the provision of information and resources; (b) three main exercise needs and wants of material, knowledge, and behavioural support; and (c) variation in exercise needs and wants based on current exercise behaviour and disability. **Conclusion:** These data support and inform the development of approaches for delivery of exercise programs through healthcare providers in persons with MS.

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D153

10:15 AM-11:15 AM

EXPLORING THE PHYSICAL ACTIVITY SUPPORT NETWORKS OF AFRICAN AMERICAN WOMEN AND THEIR RELATIONSHIP TO PHYSICAL ACTIVITY

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Social support is an important predictor of physical activity behavior. The purpose of this exploratory study was to examine the composition of the health and physical activity support networks of African American women and to explore if the physical activity support networks were related to physical activity level.

Twenty-five African American women ≥ 18 years were selected from 200 participants who were recruited for the Sisters Healthy and Empowered Study (SHAPE). Participants completed a physical activity behavior and network survey and participated in an eco-map interview describing their overall support (OS), health support (HS), and physical activity support (PAS) networks. Participants wore an Actigraph accelerometer for 7 days and had their height and weight assessed. Participants were categorized into two groups, < 5 and ≥ 5 PAS network members. Data were summarized using R.

Mean age was 38 years old, 52% were college graduates, 68% were employed for wages, 56% were never married, 64% were overweight or obese. Mean number of daily minutes of moderate to vigorous physical activity (MVPA) was 17 ± 23 min./day. Mean number of daily minutes of sedentary activity was 1091 ± 390 min./day. Participants averaged 8.8 ± 3 members in their OS networks, 5.6 ± 1.6 in their HS networks, and 4.6 ± 2.7 in their PAS networks. Forty-eight percent had ≥ 5 PAS network members. Comparing participants with ≥ 5 PAS network members to those with < 5 PAS members respectively: 25 ± 29 min./day of MVPA vs. 11 ± 14 min./day of MVPA; average OS network members were 9.4 ± 3.0 vs. 8.1 ± 2.9 ; average HS network members was 6.1 ± 1.4 vs. 5.1 ± 1.7 ; average PAS network members 6.7 ± 2.0 vs. 2.6 ± 1.3 ; average OS members who were active with the participant was 4.4 ± 2.5 vs. 2.1 ± 1.5 .

This study provides preliminary evidence that participants with more members in their PAS network are more active. Understanding how support networks are related to physical activity level would help direct the development of interventions to increase physical activity among African American women.

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D154

10:15 AM-11:15 AM

FACING CHALLENGES TO PHYSICAL ACTIVITY AMONG ADULTS WITH ARTHRITIS: EFFECTS OF SELF-REGULATORY EFFICACY

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Physical activity (PA) helps people self-manage arthritis, yet regular PA is frequently challenging. Activity barriers (e.g., busy schedule) experienced by the general population attempting regular PA are also associated with the PA participation of adults with arthritis. Identifying psychosocial factors that affect how adults cope with differential challenges may be useful for PA change. Social cognitive theory (SCT) suggests that people with higher self-regulatory efficacy to overcome barriers (SRE-barriers) may be more: (a) persistent in pursuing PA when challenged and (b) efficacious in using solutions to cope with this challenge (SRE-coping solutions). Our purpose was to compare the effects of having higher or lower SRE-barriers on persistence to be active and on SRE-coping solutions in the face of more or less challenging situations. Eighty-six adults ($M_{age} = 52.74 \pm 16.35$ years) with medically-diagnosed arthritis participated in this 2 (higher/lower SRE-barriers) \times 2 (higher/lower challenge context) quasi-experiment. Higher ($n = 44$) and lower ($n = 42$) SRE-barriers groups read about a relevant PA context of higher ($n = 51$) or lower ($n = 35$) challenge in which they placed themselves. A MANOVA examining planned comparisons for the higher challenge context was significant ($p < .05$). Follow-up ANOVAs illustrated the higher SRE-barriers group anticipated significantly greater persistence (partial $\eta^2 = .13$) and SRE-coping solutions (partial $\eta^2 = .13$) than their lower SRE-barriers counterparts (p 's $< .05$). This quasi-experiment supports SCT suggestions that greater efficacy may be most valuable when adults with arthritis face contexts of greater challenge to regular PA. Future research should examine whether persistence and SRE-coping solutions are potential mediators of the level of challenge – PA regularity relationship.

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D155

10:15 AM-11:15 AM

HEALTH LITERACY AND THE MAINTENANCE OF MODERATE-TO-VIGOROUS PHYSICAL ACTIVITY DURING AGING, 2004 TO 2013

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Health literacy (the ability to read and understand health information) may help to support the long-term maintenance of moderate-to-vigorous physical activity (MVPA) during aging, as it may promote self-efficacy for exercise adherence. This relationship has never been examined longitudinally. We therefore investigated the relationship between health literacy and consistent maintenance of MVPA during aging over an eight-year period. Data were from in-person interviews with 4345 adults aged 50-79 years in the population-representative English Longitudinal Study of Ageing (ELSA) from 2004/05 to 2012/13. Health literacy was assessed in 2004/05 as reading comprehension of a medicine label, defined as 'low' (≤ 4 items correct), 'medium' (3/4 correct) and 'high' (4/4 correct). A population-weighted logistic regression model was adjusted for sociodemographic factors, physical health, and cognitive function (memory and verbal fluency) to predict the outcome of maintaining weekly MVPA at all of five time points from 2004/05 to 2012/13. Overall, 59% (2350/4345) of participants with high baseline health literacy, compared with 33% (138/420) of those with low health literacy consistently reported weekly MVPA at all of the time points (adj. OR=1.37; 95% CI: 1.04-1.80). Better memory at baseline was positively associated with long-term MVPA (adj. OR=1.03; 1.00-1.05 per point increase out of 24), as was better verbal fluency at baseline (adj. OR=1.05; 1.01-1.09 per point increase out of 9). Other independent predictors of long-term MVPA included: being male (OR=1.42; 1.23-1.66), having higher education (OR=1.64; 1.33-2.02), being wealthier (OR=3.02; 2.35-3.88), and having no limiting long-standing illness (OR=2.13; 1.77-2.56). In sum, health literacy and cognitive function predict the long-term maintenance of MVPA during aging. However, the strongest predictors of long-term engagement in MVPA were indicators of social advantage, such as wealth. Further research is needed to better understand how trajectories of health behaviors during aging might contribute to health inequalities among older adults.

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D156

10:15 AM-11:15 AM

HOW ACTIVE ARE OLDER FAMILY CAREGIVERS TO CANCER PATIENTS? MOTIVATIONS, BARRIERS, AND PREDICTORS OF PHYSICAL ACTIVITY.

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Family caregivers (FCs) experience detriments to their physical and emotional health and have difficulty maintaining healthy behaviors such as physical activity (PA). Despite three decades of research, many questions remain, including understanding PA behaviors of older (60+) FCs to cancer patients. Older persons are at increased risk for health problems and participate less in PA. The purpose of this study was to examine the current levels, barriers and motivations, and predictors of PA, in older FCs to cancer patients.

Methods: The data for this study are from a larger survey of FCs aged 60+, recruited at a hospital-based cancer facility. FCs were included if their care recipient had breast, prostate, or colorectal cancer. The Godin leisure time exercise questionnaire (GLTEQ) was used to measure PA levels. Analyses were conducted using descriptive statistics and standard multiple regression to explore predictors of PA. **Results:** 129 surveys were returned. The majority of participants were female (60.5 %), provided 24+ caregiving hours/week, and were 70 yrs old (sd 7.43). 47.3% were achieving PA levels high enough to confer health benefits. The most commonly reported barriers to PA were painful joints (23.3%), lack of energy (20.2%), lack of interest (20.2%) and adverse weather (31.8%). Motivations to PA were, liking rewards of exercise (42.6%), wanting to be fit (41.9%), and to improve health (38.8%) and fitness (36.4%). Caregiving demands were not commonly reported barriers. PA levels were significantly correlated with state anxiety $r = -.26$, trait anxiety $r = -.26$, the Physical Component Summary (PCS) of the MOSF-36 $r = .37$, age $r = -.25$, sleep quality $r = -.26$, depression $r = .22$, and caregiving hours per week $r = -.29$ (all p 's < .01). Regression indicated PA levels were predicted by age $\beta = .21$ ($p = .011$), PCS $\beta = .26$ ($p = .006$) and caregiving hours $\beta = .26$ ($p = .002$), accounting for 23% of the variance (adjusted $R^2 = .23$). **Conclusions:** Findings were consistent with other research on barriers and motivations to PA in older persons. PA levels may also be impacted by the caregiver role. Older FCs to cancer patients may benefit from interventions to maintain or improve PA levels.

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D157

10:15 AM-11:15 AM

HOW PERCEPTIONS ON THE BUILD ENVIRONMENT FRAME ACTIVE TRANSPORTATION AND PHYSICAL ACTIVITY HABITS AMONG ADULTS AGED 55 AND ABOVE

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Jerusalem Railway Park constitutes an example of a "natural experiment", in which urban planning facilitates mobility and active lifestyle among elderly. This urban infrastructure consisting of walking and bicycle trails, connecting residential and commercial areas along a path that is isolated from motorized transportation. It passes through various neighborhoods housing a wide diversity of populations, providing safe and convenient access to places of interest.

Objectives: 1) Improve the park for this population, 2) examine future implications that such park may have on public health, environment and society.

Methods: cross-sectional study based on fieldwork of Passive and active observations, questionnaire, in-depth interview. Categories included: physical activity habits, use of the Railway Park, infrastructure, safety, accessibility and connectivity, social opportunities and feelings of community, aesthetics and environment, health, perception of health and wellbeing. **Results:** Men reported more intense physical activity than women. Women reported more frequently of decline, and less frequently of increase in intense physical activity over the past two years, while men reported more often of an increase in intense physical activity and less decrease. Furthermore, men aged 65-74 reported more increase and less decrease in intense physical activity over the past two years, and greater current intense physical activity relative to younger men, and to women of the same age. Importantly, a greater proportion of responders who live near the Railway Park engage in intense physical activity at high frequency relative to those who live farther away. Those who live near the park reported greater increase or preservation of their intense physical activity habits. The most significant motivators: positive feeling that the park provides and feeling safety. Main obstacles: lack of shade, narrow walking infrastructure, crowdedness and lack of public restrooms. Wellbeing was cited as influencing physical activity and mobility. **Conclusions:** With respect to the research hypothesis, access to the Railway Park appeared to help promote and maintain intense physical activity. The Railway Park contributes to activity habits and quality of life for many of its users.

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D158

10:15 AM-11:15 AM

A SYSTEMATIC REVIEW OF CONSTRUAL LEVEL THEORY IN THE HEALTH CONTEXT – SYNTHESIS & IMPLICATIONS FOR INTERVENTION STUDIES

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Construal level theory of psychological distance (CLT) proposes that people build different mental construals based on their experienced psychological distance from an object or event (Trope & Liberman, 2010). Accordingly, people use low-level construals to represent psychologically close events and high-level construals for distant ones (Trope et al., 2007). In sum, there are four different distance dimensions, namely temporal, spatial, and social distance as well as hypotheticality.

The present systematic review synthesizes and analyzes how CLT was thus far incorporated in the health context to positively influence people's health behavior. A systematic search of 17 electronic databases yielded 5767 results. After title, abstract, and full-text screening, 40 studies were included in the review. Only quantitative studies with an experimental design that apply CLT in the health context were assessed as eligible. For these, data extraction and a quality assessment using the QATSDD tool (Sirriyeh et al., 2012) were undertaken. All steps were executed by two independent reviewers.

Results show synergy effects of the theory in combination with other theoretical concepts such as Regulatory Focus Theory or Theory of Planned Behavior. Further, more than half of the studies examined the effects of moderating variables like mood or self-efficacy. 25 out of 40 studies used health messages as experimental stimulus, thereof 24 print material. The mainly assessed outcome variables were risk perception, intention, attitude and behavior.

The theoretical assumptions of CLT may be able to close some existing explanation gaps in health communication. The theory adds a psychological component, namely perceived distance, to the traditional framing approach and offers a way to reduce the robust phenomenon of optimistic bias.

This systematic review sets the baseline for an experiment in the context of health risk communication, theoretically based on CLT. Implications gained through the review for the experimental design will be thoroughly discussed during the presentation.

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D159

10:15 AM-11:15 AM

ATTENTION TO AND DISTRACTION FROM RISK INFORMATION IN PRESCRIPTION DRUG TELEVISION ADVERTISING: AN EYE TRACKING STUDY

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Direct-to-consumer (DTC) TV ads must disclose a drug's most important risks. Currently, the risks must be in audio at a minimum, but can also be presented with superimposed risk text (supers). Studies have shown that presenting information with both audio and supers improves recall beyond that of using audio alone. However, distracting elements in DTC ads may draw attention away from the supers conveying the risks, negating the added benefit of the dual presentation of risk information. This study examined how much attention participants pay to risk supers in DTC ads with varying levels of distracting elements, and the impact of attention to the supers on retention of risk information.

We randomly assigned 300 participants who self-identified as needing to lose more than 30 pounds to view a DTC TV ad for a fictitious weight loss drug in which the level of the distraction during the risk statement was varied to be either low or high. To mimic real-world TV-viewing, participants watched a 5 minute TV clip, a filler ad, our study ad, and a second filler ad before completing the study questionnaire. We measured attention to the risk supers using point-of-gaze data produced by an eye tracker that was placed in front of the TV. Key outcomes included attention given to the risk supers measured via eye tracking data, and retention of risk information measured via questionnaire.

Results of mediation analysis with bootstrapping resampling procedures showed that the high distraction condition led to less attention paid to the risk statement ($a = -6.87, p < .01$), and that when participants paid more attention to the super, they retained more of the risk information ($b = 0.04, p < .01$). Attention significantly mediated the relationship between distracting ad elements and retention of risk information ($ab = -0.30, 95\%CI -0.54, -0.11$). Thus, distracting elements during the presentation of drug risk supers in DTC TV ads can draw attention away from the risk supers, and in turn reduce retention of drug risk information.

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D160

10:15 AM-11:15 AM

BIASES IN THE PROCESSING OF HEALTH AND SAFETY MESSAGES

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Information about threats to one's safety or health are ubiquitous in everyday life, coming from sources as varied as health research news, medical providers, and public service announcements. The Warning Processing Model (WPM) proposes that warnings are analyzed in terms of credibility, severity, and self-relevance which, in turn, influence outcomes such as attention to the threat and protection intentions. These three message components can each be biased by situational (e.g., avoid difficult protection, minimize anxiety) or dispositional factors (e.g., low control-based (CB) or high avoidant denial (AD) orientations).

Two studies were done to test the model. In both studies, threat orientations were measured, and a biasing motive was manipulated. Then all participants read the same message about the consequences of sleep deprivation. Credibility, severity, and self-relevance of the consequences were assessed, as were outcomes of need for attention to the issue and change intentions. In Study 1 ($N = 61$), the biasing motive of avoiding difficult protection was manipulated through difficult vs. easy protection recommendations. Both situational and dispositional biases on message processing were found. As expected, those in the difficult protection condition and individuals high in AD or low in CB threat orientation rated the message as less credible. In addition, low CB orientation was related to lower ratings of severity of consequences. Study 2 ($N = 99$) manipulated self-relevance of the issue through cut-offs for sleep deprivation problems. Biased processing was found: Those in the high self-relevance condition rated the message as less credible, as did those low in CB or high in AD orientation. In addition, in both studies credibility, severity, and self-relevance ratings were significantly related to attention or intention outcomes.

Health warnings are filtered through the motivations and world views of recipients. The WPM provides a useful model for understanding and researching the biases that occur in the processing of warnings, thus providing a more comprehensive picture of the effects of these messages and how to design effective ones.

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D161

10:15 AM-11:15 AM

BRIEF MOTIVATIONAL INTERVIEW INCREASES HELP SEEKING BEHAVIOR AMONG INDIVIDUALS WITH BLOOD, INJECTION, INJURY PHOBIA SYMPTOMS

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Medical procedures involving needles play a vital role in the prevention, diagnosis, and treatment of human disease. For those who experience symptoms of Blood, Injection, Injury phobia, situations involving blood and needles elicit clinical levels of anxiety and subsequent avoidance. This avoidance increases their risk for suboptimal health outcomes. Empirically supported interventions still possess an important limitation in that these can only be used with individuals who overcome their avoidance enough to seek help. The current project conducted a pilot study using a randomized, controlled trial to test whether a newly developed brief motivational interview using peer-facilitators would evince changes in help seeking behavior related to individuals' anxious avoidance of medical appointments. Sixty-one participants were randomized to receive either the intervention or an information only control condition. Both groups exhibited similar changes in attitude and motivation, however, a 2 (groups) by 3 (time points) ANCOVA test revealed an overall effect of time on average motivation scores ($F=4.910, p=.01$) and a time by group interaction effect ($F=3.881, p=.03$) indicating that the two groups exhibited different patterns of change. Secondary effect size analysis provided evidence for a more sustained effect in the intervention condition relative to control in both motivation and attitude measures. At one month follow up, participants in the intervention condition reported greater numbers of help seeking behavior ($IR=2.46$; $95\%CI=1.40, 4.35$; $p=.002$). The intervention was considered acceptable by the participants and feasible to conduct using peer-facilitators. This preliminary pilot provides support for the use of peer delivered brief MI to promote help seeking among individuals who anxiously avoid medical appointments due to fear of blood and needles.

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D162

10:15 AM-11:15 AM

ENGAGING PATIENTS IN CANCER SCREENING DECISION-MAKING THROUGH HEALTH INFORMATION TECHNOLOGY

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Background: Modern information technology has the potential to offer patients decision support outside the clinical encounter. Purpose: This study evaluated whether a personal health record that interfaces with the electronic health record can help patients consider difficult cancer screening decisions ahead of office visits and whether this experience alters what occurs in clinical encounters. Methods: Patients from 12 primary care practices who had a health record account and were eligible for screening were emailed to complete a 17-item module that explored their concerns and preferences, offered educational material, and sought permission to forward key details to their clinician, which could be forwarded electronically as structured messages in the electronic medical record. Eligible patients included adults age 50-74 who were overdue for colorectal cancer screening, and women age 40-49 and men age 55-69 who have not had a mammogram or PSA test, respectively, in two years. Following office visits, both the patient and clinician were invited to complete an 11-item post-encounter survey. Results: Of 11,099 patients who received the online invitation, 19% started and 8% completed the module. Of those who completed the module most patients (76.0%) wanted to talk with their physician about next steps and 43.9% elected to share their responses with their physician. The four topics they most wanted to discuss included options for getting screened, the best test for screening, problems (e.g., harms) created by screening, and logistics. After their office visit, nearly half of patients found that the module made their appointment more productive, got them more involved in making the decision, improved their knowledge, and improved communication. Conclusions: A substantial proportion of patients can benefit from proactive outreach via personal health records to support decision-making and communicate preferences to clinicians.

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D163

10:15 AM-11:15 AM

IDENTIFYING ABERRANT MEDICATION-RELATED BEHAVIOR IN ADOLESCENTS BEING PRESCRIBED OPIOIDS FOR CHRONIC PAIN

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Pediatric patients with recurrent or chronic pain are sometimes prescribed opioids. Providers are seeking a way to screen for future aberrant medication-related behavior (AMRB) among this population similar to the Screener and Opioid Assessment for Patients with Pain (SOAPP), which is currently used with adults. The first question for screener development is: What does AMRB look like in adolescents being prescribed opioids for pain related to chronic medical conditions such as cancer and sickle cell disease? We conducted a qualitative study with pediatric clinicians to find out. Participants were recruited via word-of-mouth and e-mail listservs for clinicians from relevant specialties. Data was collected in two steps: 1) 28 clinicians working in pediatric pain and/or addiction were asked to brainstorm the patient characteristics they associate with AMRB. The resulting list of 446 statements was edited to remove duplicates and randomized for qualitative analysis. 2) Using Concept Mapping software, 16 clinical experts sorted 105 statements into piles based on content similarity, after which they rated each statement on a 5-point Likert scale to indicate their level of confidence that a given concept provided evidence of AMRB (1=Not at all, 5=Extremely). Maps with 3-8 clusters were generated; the 5-cluster map best distinguished between statements. Clusters were: 1. Risky behaviors that are specifically substance-related, $M = 4.57$; 2. Misuse, $M = 3.88$; 3. Emotion regulation regarding access to opioids, $M = 3.83$; 4. Psychosocial functioning, $M = 3.04$; 5. Maladaptive social interactions, $M = 2.94$. Participants rated Cluster 1 as significantly more predictive of AMRB, all t 's > 6.52 , all p 's $< .001$. Mean ratings for each cluster were compared across the following subgroups: education (doctoral vs. non-doctoral), discipline (psychology vs. biomedical fields), patient age (15-21 years vs. 12-21 years), and years of clinical experience (< 15 vs. $16+$). No subgroup-specific differences existed; ratings correlated strongly in all cases, r 's $> .93$. Although clinicians from diverse disciplines are involved in adolescents' opioid treatment, they agree that risky behavior specifically related to substance use is the strongest evidence of ABRM. These results are being used to identify valid outcome measures to test an opioid risk screening tool designed specifically for this population.

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D164

10:15 AM-11:15 AM

MAKING DECISIONS ABOUT MEDICATION USE DURING PREGNANCY IN THE ABSENCE OF CLEAR RISK INFORMATION

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Making Decisions about Medication Use during Pregnancy in the Absence of Clear Risk Information

Background: A recent study estimated the use of any medication during pregnancy at 94% and found that the average number of medications taken during pregnancy increased by 68% in the past three decades. Given that data for more than 90% of medications is insufficient to determine fetal risks, women are often being faced with making decisions about medication use during pregnancy without adequate safety information. **Methods:** Trained moderators conducted six online focus groups and 12 in-depth, follow-up interviews with women who used commonly prescribed medications to treat chronic or acute conditions either while pregnant or while planning a pregnancy ($n=48$) to assess their knowledge, attitudes, and decisions about medication use during pregnancy. Two researchers independently coded the focus group and interview transcripts with NVivo 10.0 software to identify themes. **Results:** Participants commonly believed that sufficient information on the safety of medications exists, but that they themselves did not have all of the information available. The vast majority of participants indicated that they would not take a medication during pregnancy if the risk of adverse fetal outcomes from the medication's use was unknown. Similarly, several participants explained that they decided to err on the side of caution if they could not obtain information or received/found conflicting information about a medication's safety and either discontinued its use or lowered their dosage. **Conclusions:** These findings suggest that the absence of clear, sufficient information about a medication's risks can affect consumers' treatment preferences and decision making about whether to start or continue using medications they need during pregnancy. Health care providers can play a critical role in helping women of childbearing age balance the benefits of medication use, the risks of not using needed medications, and potential risks of medication use in cases when information about medication risks is not available, insufficient, or conflicting.

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D165

10:15 AM-11:15 AM

POISON OR PREVENTION? PATIENT AND CLINICIAN ATTITUDES TOWARDS BREAST CANCER CHEMOPREVENTION

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Chemoprevention using tamoxifen or raloxifene is a risk reduction option for women with increased risk of breast cancer. In 2013, the drugs became available to UK women meeting specific risk criteria. Patients face a complicated trade-off between the risks and benefits of chemoprevention, and this process is likely to be affected by their clinician's perspective. We used semi-structured interviews to investigate how patients ($n=10$), general practitioners (GPs) ($n=10$), and clinicians working in a family history or clinical genetics setting (FHCG clinicians) ($n=15$) make decisions about chemoprevention use. One patient was interested in using chemoprevention. Her decision was driven by her breast cancer worry and a desire to protect herself for her family. The remaining women declined either immediately ('gut decliners') or following a period of thought ('deliberative decliners'). 'Gut decliners' were concerned about side-effects and the increased risk of endometrial cancer. 'Deliberative decliners' weighed up the benefits and harms of chemoprevention, but also considered their general attitude towards medication and their low perceived risk of breast cancer. These women were concerned that tamoxifen would be a daily reminder of their family history. FHCG clinicians felt poorly informed about chemoprevention and were concerned about drug efficacy. This discouraged informed discussions with patients. GPs had not been asked to prescribe chemoprevention, and they were largely unaware of the use of medication in this context. GPs were reluctant to initiate therapy because it is not licenced in the UK, but were willing to continue a prescription if it had been started by an FHCG clinician. Patient barriers can be interpreted within contemporary decision science theory (e.g. Fuzzy Trace Theory), and should be addressed with decision support tools. Clinician barriers were accommodated within the Consolidated Framework for Implementation Research. Awareness raising initiatives are needed to ensure clinicians are sufficiently trained to promote informed decision-making by patients.

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D166

10:15 AM-11:15 AM

PREVALENCE OF SUN PROTECTION AT OUTDOOR RECREATION VENUES AT RESORTS IN NORTH AMERICA

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Vacations are associated with high solar ultraviolet radiation exposure, sunburns, and skin cancer. Sun protection behaviors in recreation venues (i.e., pools, beaches, marinas, court/lawn games, golf courses, activity areas, outdoor dining, and commons/reception areas) were examined in a sample of adult vacationers unobtrusively observed ($n=4,347$; mean=106 per resort) or interviewed ($n=3,531$; mean=86 per resort; 10% refused) at 41 resorts in North America during March to September 2012-14. Body coverage and shade use were observed; sunscreen practices were self-reported; and a combined sun protection index z-score was calculated. Vacationers interviewed were mostly middle-aged (58% aged 35-60), non-Hispanic white (93%), and more female (61%). Also, 22% had highest-risk skin types. Adults in the resort commons/reception areas served as the comparison group, where sunscreen application was 49%, pre-application, 61%, reapplication, 38%, body coverage, 74%, shade use, 45%, and combined index z-score, 5.24. More vacationers at swimming pools/beaches used sunscreen (pool=64%; beach=76%) and reapplied it (pool=78%; beach=73%) but fewer used other sun protection practices (sunscreen pre-application [pool=38%; beach=47%], body coverage [52%; 55%], shade [34%; 26%], and combined index [pool=-9.48; beach=-7.24]). Those at marinas reapplied sunscreen more (73%) but practiced other sun protection less (sunscreen [48%]; pre-application [44%]; body coverage [66%]; shade [20%]; combined index [-5.41]). Golfers used more sunscreen often (52%) but covered slightly less of the body (71%) and used less shade (34%). Vacationers playing court/lawn games used less shade (34%), wore less clothing (70%), and had a lower combined sun protection index (-2.90). In activity areas, vacationers used more sunscreen (60%) and used less shade (34%). Sun protection was highest at outdoor dining areas, with more vacationers using shade (67%) and combined sun protection (9.92) (but less body coverage [69%]). Only age altered sun protection across venues, with older adults taking more precautions. With over 3 million estimated cases of skin cancer in 2015, more creative, systematic, 21st century strategies are needed to improve the sub-optimal sun protection of many Americans when recreating outdoors on vacation.

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D167

10:15 AM-11:15 AM

SELF-REPORTED HEALTH RATINGS IN LATINAS SUFFERING FROM BINGE EATING

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Self-reported health (SRH) ratings vary significantly between patients and medical providers. Discrepancies in health conceptualization may complicate providers' diagnoses and treatment; therefore, it is important to identify factors that influence individual's SRH ratings. Gender and racial/ethnic variations in SRH may be related to culturally bound definitions of health. For example, Latinos are more likely to base SRH ratings on non-medical aspects such as spiritual and social well-being compared to other racial/ethnic groups. Psychiatric disorders known to negatively impact physical health, such as eating disorders, may also influence SRH. Research has found that Latinas experience equal to higher rates of binge-related eating disorders than women from other racial/ethnic groups, yet, little is known about how these disorders influence SRH. The present study examined the contributions of binge eating symptoms, BMI, mental health (i.e., depression), and self-reported physical ailments (i.e., pain, chronic health conditions) to SRH among Latinas suffering from binge eating.

Latinas ($N=21$; M age = 28.63, $SD=11.14$) who endorsed binge eating were recruited from the community. Those eligible completed self-report questionnaires and a diagnostic interview. Overall, 52% were overweight or obese, 62% reported at least mild depression, 57% at least mild pain and 74% at least one chronic ailment. Pain and depression ($r_{p-.65}$, $p=.001$; $r_{d-.61}$, $p=.003$) were significantly related to SRH. Number of binge episodes and associated distress, BMI, and number of ailments were not significantly associated with SRH. The majority of participants (62%) reported good, very good, or excellent SRH ($M=3.1$, $SD=1.3$). Women who reported poor SRH were more likely to report pain ($M=4.3$, $SD=1.28$) compared to women with good SRH ($M=2.31$, $SD=1.18$), ($t(14)=-3.47$, $p=.004$). Unexpectedly, binge eating symptoms were not related to SRH. These findings suggest that among Latinas who binge eat, physical conditions such as pain have a stronger influence on SRH. Implications for medical providers working with Latinas will be discussed.

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D168

10:15 AM-11:15 AM

UNCERTAINTY ABOUT PERCEIVED DISEASE RISK MAY BE A VALUABLE ADDITION TO MEASURES OF RISK PERCEPTION

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Uncertainty about one's disease risk is an infrequently assessed construct that may play a role in risk perception, which is related to protective health behaviors. The objective of this research was to examine whether uncertainty is a meaningful dimension of perceived risk. MTurk workers ($N=188$, mean age=35.3; 85.1% white; 58.0% male; 52.1% married) completed a questionnaire assessing their perceived risk for diabetes, objective risk, uncertainty about perceived risk, health locus of control, belief that developing diabetes is unpredictable, and potential correlates. We use multivariable linear regression to examine whether objective risk (normal vs. elevated; calculated using the American Diabetes Association's (ADA) Type 2 Diabetes Risk Test) and perceived risk for diabetes predicted risk uncertainty, while controlling for, diabetes knowledge and demographic characteristics. Over 20% of participants were uncertain about their risk for diabetes (21.7%) and 12.2% had an elevated objective risk for the disease. Higher perceived risk of diabetes ($\beta=0.40$, $p<.001$), as well as being female ($\beta=0.23$, $p<.01$) and married ($\beta=0.18$, $p=.03$) were associated with greater risk uncertainty. Objective risk was unrelated to risk uncertainty ($\beta=0.42$, $p=.12$). Perceived and objective risk interacted to predict risk uncertainty ($\beta=-0.59$, $p=.03$). Among those at normal objective risk for diabetes, higher perceived risk was associated with greater uncertainty about their risk ($\beta=0.42$, $p<.001$). Among those with elevated objective risk, lower perceived risk was associated with higher uncertainty ($\beta=-0.54$, $p=.01$). In this study, some individuals at low objective risk nonetheless perceived their risk to be high, and some individuals with elevated objective risk perceived their risk to be lower; however, these individuals tended to be more uncertain about their risk. By assessing uncertainty we were able to identify that these individuals had relatively lower confidence about their inaccurate risk perceptions. Assessing uncertainty may be useful for identifying those who would benefit the most from health information. Furthermore, uncertainty may moderate the perceived risk-behavior relationship; in this case, measuring uncertainty might help us refine our assessment of the relationship between perceived risk and behavior.

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D169

10:15 AM-11:15 AM

ASSOCIATIONS OF OBJECTIVELY MEASURED SLEEP WITH ADIPOSITY IN POLICE OFFICERS

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Objectives: We aimed to investigate the associations of objectively measured sleep duration and sleep quality with adiposity in police officers. **Methods:** Participants were 229 officers (163 men and 66 women) from the Buffalo Cardio-metabolic Occupational Police Stress cross-sectional study. Sleep duration and sleep quality (i.e., movement during sleep, sleep time to awake time ratio, and percent of wakefulness during sleep) were derived from actigraphy data. Anthropometric measurements including height and weight, abdominal height, body fat percent (BF%), trunk fat percent (TF%), and waist circumference were obtained during a clinic visit. Body mass index (BMI) and a body shape index were calculated for each participant. Unadjusted and adjusted orthogonal polynomial contrasts were used to test the quadratic trends of adiposity measurements across sleep duration categories. Linear regression models were used to examine the associations between sleep quality and adiposity. **Results:** In women, fewer than 5.5 hours and more than 7.5 hours of sleep were associated with larger values of BMI, BF%, and TF%. Movement during sleep and the percent of awake time during sleep were positively and linearly associated with abdominal height, BMI, and BF% in women. In men, movement during sleep was positively and linearly, and sleep time to awake time ratio was inversely and linearly associated with abdominal height. All the associations were independent of age, race/ethnicity, smoking status, and physical activity. **Conclusions:** Objective measures of sleep duration and quality were associated with adiposity differently in male and female police officers. Future prospective studies are warranted to explore the causal relationship between sleep and adiposity.

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D170

10:15 AM-11:15 AM

HEALTH PERCEPTIONS AND DECISIONS ABOUT "NATURAL" CIGARETTES AND THEIR DISCLAIMERS

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Introduction: The 2009 Family Smoking Prevention and Tobacco Control Act requires FDA preapproval for any tobacco product advertising that implicitly or explicitly suggests reduced risk of harm. We investigated adolescents' and adults' perceptions about a recent American Spirit cigarette brand advertisement with "natural," "organic," and "additive-free" claims and solicited smokers' experiences with these cigarettes. **Methods:** We conducted 9 focus groups with 59 participants ages 13 to 64 (30 male, 29 female), stratified by age, smoking status, and susceptibility to smoking. We asked participants' perspectives about an example American Spirit cigarette brand advertisement. Using two coders, we then reviewed the transcripts with ATLAS.ti qualitative analysis software and conducted a thematic content analysis. **Results:** Many participants were confused about the "natural," "organic," and "additive-free" descriptors. Some participants viewed American Spirit cigarettes as being less harmful or possibly less harmful than other cigarettes, even though the ad contained disclaimers explicitly stating that these cigarettes are not safer. Some participants expressed doubt that the disclaimers were fully true, some did not initially notice the disclaimers, and others said that disclaimers tend to be ignored. Smokers had various opinions on the taste of American Spirit cigarettes and their high cost. A few smokers said they smoke them because they think they are not as bad for them as other cigarettes. **Conclusions:** Despite the presence of disclaimers in advertising for "natural," "additive-free," or "organic" cigarettes, some members of the public still perceive these products as being less harmful than other cigarettes. It may be appropriate for the FDA to restrict these words for the same reason "low," "light," and "mild" were restricted—because they imply a safer product.

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D171

10:15 AM-11:15 AM

IDENTIFYING EFFECTIVE ELEMENTS FOR DISCLOSURE MESSAGES ABOUT HARMFUL CONSTITUENTS

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Background. Cigarette smoke contains over 5,000 constituents, 93 of which have been identified by the Food and Drug Administration (FDA) as harmful or potentially harmful to human health. Our study sought to identify which elements of constituent disclosures are most effective in discouraging people from wanting to smoke. **Methods.** Three hundred eighty-eight smokers ages 18 and older completed an online survey. The sample was 50% male, 86% White, and mean age was 37 (SD=11.3). We randomized participants to one of two panels that examined half of a set of 50 health effects and 26 products known to be associated with constituents. Outcomes were awareness and discouragement from wanting to smoke. **Results.** Health effects that elicited the most discouragement from wanting to smoke were cancer-related, followed by respiratory, cardiovascular, and reproductive health effects. Awareness of health effects predicted higher discouragement from wanting to smoke cigarettes ($b=0.27$, $p<0.001$). Respiratory, cardiovascular, and reproductive health effects were significantly less predictive of discouragement ($b=-0.10$, -0.11 , and -0.70 , respectively; all $p<0.001$) compared to cancer-related health effects. Products that elicited the most discouragement were low exposure products (e.g., explosives), followed by products with possible exposure (e.g., rat poison), and products with a high likelihood of exposure (e.g., floor cleaner). Awareness of products that constituents are found in ($b=0.47$, $p<0.001$) and low exposure products ($b=0.21$, $p<0.001$) were associated with higher discouragement. **Conclusions.** Results suggest that smokers' perceptions of constituent disclosure elements vary in systematic ways. To effectively communicate about the dangers of harmful or potentially harmful constituents to the public, the FDA should consider implementing constituent disclosure messages that focus primarily on carcinogenic health effects (e.g., mouth cancer, lung tumors) and low exposure products (e.g. explosives, radioactive material) that constituents are also found in.

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D172 10:15 AM-11:15 AM

IMPACT OF HOME SMOKING BANS ON TOBACCO CESSATION AMONG INDIVIDUALS SEEKING ASSISTANCE FROM A QUITLINE

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The benefits of smoke-free homes include reduced secondhand smoke exposure, lower tobacco use, and higher rates of quitting. Little is known about associations between implementing indoor smoking bans and smoking outcomes among quitline callers. This study examined the impact of home smoking bans on tobacco cessation among callers to the Arizona Smokers' Helpline (ASHLine). Between July 2011–February 2015, ASHLine collected self-report data on home smoking bans at enrollment and 7-month follow-up among 8,664 clients. Complete bans were defined as no smoking allowed inside the home. Partial bans were defined as smoking allowed in some places in the home. Rates of complete smoking bans at enrollment and 7-month follow-up were 58% and 77%, respectively. Among clients who reported no bans at enrollment, there were significant differences in 30-day quit rates for those who reported a complete ban (44%), partial ban (18%), and no ban (14%, $p < .0001$) at follow-up. Further analyses were conducted with a combined group of clients who reported complete or partial (C/P) bans to address sample size limitations. Backwards stepwise regression analyses (.10 cut-off), which controlled for background characteristics and treatment variables, indicated that establishing a smoking ban during the process of quitting was predictive of cessation. Compared to clients who reported no smoking bans, those who reported C/P bans at both time points showed a greater than 3-fold ($OR=3.65$; $CI=3.03$ – 4.39) likelihood of quitting while those with C/P bans at follow-up but not at enrollment showed an almost 5-fold ($OR=4.60$; $CI=3.74$ – 5.64) higher likelihood of quitting. Clients who reported C/P bans only at enrollment but not at follow-up were also more likely to have quit tobacco at 7 months ($OR=1.64$; $CI=1.27$ – 2.11). These results suggested that home smoking bans increase the likelihood of quitting tobacco. In addition to coaching and other cessation aides, quitlines should educate and support tobacco users in creating smoke-free environments as part of a comprehensive quit plan.

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D173

10:15 AM-11:15 AM

MOBILE HEALTH APPLICATIONS AND SMOKING CESSATION: FINDINGS FROM THE HEALTH INFORMATION NATIONAL TREND SURVEY (HINTS)

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In recent years stop smoking mobile applications, “apps” have been increasingly available in the United States due to the proliferation of smartphones and other mobile devices. Thus it is essential for health researchers and practitioners to better understand how smokers utilize mobile applications to improve their health. The primary aims of this study are to (1) assess differences in mobile media usage between smokers and non-smokers and (2) to examine the relationship between quitting-related perceptions/history and mobile health apps usage among smokers. Data from the Health Information National Trends Survey (HINTS IV Cycle 4, $N=3,677$) were analyzed to test our research aim and questions. Statistical analyses were conducted using STATA version 10.0 and the analyses incorporated the Jackknife replicate weights to estimate population characteristics including standard errors.

First we compared smokers and non-smokers in terms of their mobile media usage patterns: smokers: 15.2%; non-smokers: 84.8%. We found that smaller proportions of smokers have smartphones such as iPhone, Android, Blackberry, etc. than non-smokers (46.6% vs. 51.4%). We also found that smaller portions of smokers have tablet computers such as iPad, Samsung Galaxy, etc. than non-smokers (63.8% vs. 68.0%). However these observed differences did not reach statistical significance. Next we performed a series of cross-tabulations to examine the relationship between quitting-related history/perceptions and mobile health applications usage among smokers ($n = 547$). Our bivariate analyses revealed that smokers who have stopped smoking for one day or longer in the past year were more likely to have the mobile apps related to health that led them to ask a doctor new question or to get second opinion from another doctor ($\chi^2 = 4.18$, $p = .046$). However the analyses found that there was no significant association between mobile apps usage and intent to quit smoking. The study findings indicate that mobile apps usage and patterns are correlated with perceptions and behaviors to improve health, suggesting that mobile apps can be effective tools to promote and facilitate quitting smoking.

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D174

10:15 AM-11:15 AM

PERSPECT: COLLECTIVE-INTELLIGENCE BASED TAILORING: RESULTS OF AN RCT

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Background: What is the next frontier for computer-tailored health communication (CTHC) research? In current CTHC systems, experts select the variables and develop the tailoring rules that specify how the content should be tailored based on their knowledge of the targeted population, literature, and health behavior theories. In collective-intelligence recommender systems used by Web 2.0 companies (e.g., Netflix and Amazon), machine learning algorithms combine user profiles and feedback ratings of content (from themselves and other users) to empirically tailor content. Augmenting current theory-based CTHC with empirical collective-intelligence systems could potentially be evaluated as the next frontier for CTHC. **Methods:** In a pilot randomized trial, current smokers were randomized to receive a daily email message tailored using a traditional rule-based ($n=46$) or a collective-intelligence-based approach ($n=74$). Tailored messages were sent for 65 days or until smokers had provided on a 5 point Likert scale thirty ratings on the influence of the message (Does this message influence you to quit smoking?). Our primary hypothesis was that the collective-intelligence approach would select messages with better influence than the rule-based CTHC. We also assessed smoking cessation at follow-up. **Results:** 64% of our sample was female, and 38% were 45+ years old. Collective Intelligence smokers rated their messages as slightly more influential (mean rating: 4.1, SD: 0.6) than control smokers (mean rating: 3.9, SD: 0.5, $p=0.17$). 64% of intervention smokers agreed/strongly agreed that the messages influenced them to use NRT compared to only 46% of control smokers ($p=0.09$). Additionally, 79% of intervention smokers agreed/strongly agreed that the messages influenced them to quit smoking (compared to 62% of the control; $p=0.07$). At follow-up, 36% of intervention smokers stopped smoking for one day or longer because they were trying to quit, as compared with 32% of control smokers. **Conclusion:** Results indicate that the collective-intelligence approach was at least equivalent, and trended toward more positive experiences and outcomes but needs larger studies to assess true impact.

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D175

10:15 AM-11:15 AM

PREDICTORS OF QUIT OUTCOMES AMONG SMOKERS WITH MENTAL HEALTH CONDITIONS ENROLLED IN A STATE-BASED QUITLINE

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Smokers with mental health conditions (MHCs) have disproportionately high smoking rates and experience unique barriers to quitting, making them a high-risk group with a disparate burden of tobacco-related death and disease. Health care providers can be credible sources of information and can promote smoking behavior change among their clients by capitalizing on teachable moments during client-provider interactions. However, while provider-based brief clinic intervention (Ask, Advise, Refer or AAR) may promote smoking behavior change, little is known about how these strategies influence quit rates among smokers with MHCs enrolling in quitline services. The purpose of this study was to examine predictors of quit outcomes and whether mode of entry (provider referral vs. proactive caller) was associated with quit rates among smokers with MHC enrolled at the Arizona Smokers' Helpline (ASHLine). Data collected from Jan 2011 - Dec 2014 ($N=10,726$) was analyzed; self-reported MHC status (mood/anxiety, substance dependence) was assessed at enrollment. Direct entry logistic regression was used to predict quit status at 7-month follow-up. Greater program utilization [>5 counseling calls ($OR=2.82$; $CI:2.4$ – 3.3) and use of NRT ($OR=1.18$; $CI:1.0$ – 1.4), absence of indoor smoking bans ($OR=0.76$; $CI:.60$ – $.97$), and greater social support ($OR=1.3$; $CI:1.01$ – 1.5) were associated with quit rates. However, clients referred by their providers were 31% less likely to quit compared to proactive callers ($OR=0.69$; $CI=0.58$ – 0.83). Given the dearth of literature in this area, results reinforce the need to improve existing clinic-level training by addressing key barriers to AAR implementation and specific provider-training needs to improve dosage and messaging around tobacco cessation advice. Moreover, given that program utilization and smoking bans influence quit rates, quitlines could tailor services so as to (a) maximize frequency of counseling contact, (b) increase program support, and (c) change social contingencies around smoking, approaches that may improve quit outcomes within this high-risk group.

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D176

10:15 AM-11:15 AM

SEE ME SMOKE-FREE: AN MHEALTH APP FOR WOMEN TO ADDRESS SMOKING, DIET AND PHYSICAL ACTIVITY

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BACKGROUND: Women report greater difficulties quitting smoking and are more likely to relapse than men. Concerns about weight gain, negative body image, and low self-efficacy may be key factors affecting smoking, diet, and exercise behavior of women. A multi-behavioral approach, including diet and physical activity, may be more effective at helping women quit. Guided imagery has been successfully employed to address body image concerns and self-efficacy in smoking cessation, diet and exercise. While imagery is an effective therapeutic tool for behavior change, the mode of delivery has generally been in-person which offers limited reach. mHealth apps offer a unique channel through which to distribute imagery-based interventions. **OBJECTIVES:** To develop and evaluate the feasibility and acceptability of an mHealth app for women designed to simultaneously address smoking, diet, and physical activity. **METHODS:** We created the program content and designed the functionality of the See Me Smoke-Free app for use on the Android platform in collaboration with focus group and in-depth interview participants. We then programmed and tested the application's usability in preparation for an open, within-subjects trial with 73 participants, with assessments at 30- and 90-days post-enrollment. **RESULTS:** To date, the app has been downloaded more than 360 times, 151 women enrolled, and 78 women were dropped or withdrawn from the study, leaving a final sample of 73. We have completed the 30-day assessment, with a 92% follow-up rate. Our primary outcomes are self-reported 7-day point prevalence and prolonged abstinence at 30- and 90-days. Secondary outcomes include physical activity, diet, weight, weight concerns, body image and self-efficacy. We also constructed program use metrics and created composite exposure scores to examine correlations between program exposure/engagement and outcomes. Finally, we compared app use between participants and non-participants using data from Google analytics. **CONCLUSIONS:** The study's findings demonstrate the feasibility and acceptability of an app which uses guided imagery to address multiple behaviors critical to women's health.

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D177

10:15 AM-11:15 AM

SMOKEFREETXT BEHAVIOR CHANGE TECHNIQUES ANALYSIS

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Smoking cessation text messaging programs have been found to be effective in helping smokers quit; however, there is a lack of understanding of the building blocks of these programs. Taxonomies of behavior change techniques (BCTs) have been developed to standardize the characterization of behavioral intervention components. We applied the Behavior Change Techniques Taxonomy V1 (BCTTv1) to categorize the BCTs included in the National Cancer Institute's SmokefreeTXT (SFTXT), a 6 week smoking cessation text messaging program. BCTTv1, developed by Michie and colleagues, includes 93 BCTs clustered into 16 groups.

SFTXT messages were coded using an iterative process. First, two members of the study team coded 25 randomly selected messages. Based on this initial coding, discrepancies were discussed and some BCT definitions were revised for clarity. The full text library was then double coded, with a percent agreement of 61%. All discrepancies were solved through consensus of three members of the study team.

The types and number of BCTs were assessed both by message type and time. The most common BCT clusters for quit preparation messages (n=29), messages users received for up to 2 weeks leading up to their quit date, were goals and planning, social support, shaping knowledge, natural consequences, and repetition and substitution. General communication messages (n=78) included the most diversity in terms of BCTs, with the most common clusters being feedback and monitoring, social support, and natural consequences. The assessment messages [smoking status (n=10) craving (n=8), and mood (n=6)] had fewer types of BCTs, primarily feedback and monitoring.

Across the six weeks of the program (post-quit), feedback & monitoring and natural consequences were two of the most common BCT clusters. In contrast, self-belief BCTs were most prominent during the final week. Social support was most pronounced during the first couple weeks of the program, but remained important throughout.

Mapping the specific BCTs that are used to support smokers throughout their quit-journey enables examination of program efficacy and provides insights that can be used to inform program improvements, such as content refinement and dynamic tailoring. Furthermore, the process of mapping real-world interventions to an established BCT taxonomy allows for linkage to behavioral ontologies in the future.

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D178

10:15 AM-11:15 AM

TEXT2QUIT: AN ANALYSIS OF PARTICIPANT ENGAGEMENT IN A TEXT-BASED SMOKING CESSATION PROGRAM

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Introduction: Understanding the features of a text messaging program associated with engagement and behavior change is integral for effective mHealth program design. Text2Quit, an interactive text messaging program aimed at smoking cessation, has been shown to increase quit rates, but the role of user engagement has not been thoroughly explored. This study reports on participants' interaction with the program and associations between engagement and cessation. **Methods:** The study included the 262 participants who received the Text2Quit intervention. Self-reported engagement measures were collected through a baseline survey, follow-up at 6 months, and computer records of participant use of the program. **Results:** The majority of participants (73%) did not unsubscribe during the 6-month intervention. On average, participants received 210.51 SMS messages, 23.75 emails, and logged into the web portal 1.94 times. Being female was predictive of engagement with the program ($\beta = 15.39$). Program engagement, as measured by use of the keyword PLEDGE ($p = .002$) and the Smokefree Status at 7 Days survey ($p < .001$) were associated with quitting; use of keywords SMOKED ($p < .001$), RELAPSE ($p = .007$), and STOP ($p = .023$) were inversely related to quitting. While quitters stayed enrolled in the program longer and engaged with the program more frequently, overall program "dose" (outgoing and user-generated messages, emails, and web logins) was not predictive of smoking cessation. Thirty one percent ($N = 83$) of the sample reported quitting at follow-up. **Conclusions:** Use of interactive tools such as pledges and reporting on smoking status were predictive of cessation. Further study of program features is required to understand how to optimally design text messaging programs.

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D179

10:15 AM-11:15 AM

THE EFFECT OF SMOKING ON SEIZURES AMONG INDIVIDUALS WITH EPILEPSY

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Despite its well-publicized negative health effects, cigarette smoking is as or more common among individuals with epilepsy compared the general population (20-39% vs. 18%; Cui et al., 2015; Kobau, 2004). Moreover, smoking worsens multiple clinical features of epilepsy (e.g., seizure frequency, memory; Baker, 2012; Dworetzky et al., 2010), resulting in increased risk for neurologic as well as cardiopulmonary morbidity and mortality (Dodrill, 2004; Sutula et al., 2003). Extant research indicates that smoking is associated with increased risk for seizures in the general population (Dworetzky et al., 2010); however, no study, to date, has examined how smoking impacts seizures among individuals with epilepsy. Thus, the aims of the present study were to examine the association between smoking status and seizure severity and between daily smoking rate and seizure frequency and severity among smokers with epilepsy. Participants were 35 current daily smokers [$M_{age}(SD) = 44.2(11.5)$; 48.6% female; 91.2% Caucasian; 97.0% had previous quit attempts] and 35 nonsmokers [$M_{age}(SD) = 49.0(15.6)$; 65.7% female; 91.4% Caucasian] with epilepsy recruited from an outpatient epilepsy clinic. Individuals were eligible if they had been diagnosed with epilepsy for at least one year and had no history of psychogenic non-epileptic seizures. Smokers had their smoking status verified via carbon monoxide analysis. Results indicated that, after controlling for the effects of some of the factors known to impact seizure severity and frequency (i.e., alcohol consumption, symptoms of depression and anxiety), smokers with epilepsy were 4 times more likely than nonsmokers to have experienced seizures with loss of awareness (complex partial or generalized seizures) in the past year ($OR = 4.1$; $p < .05$, 95% CI = 1.3-12.5). Smoking status was not associated with increased risk of seizures without loss of awareness (simple partial). However, smoking rate was not associated with an increased likelihood of seizures of any type among smokers with epilepsy. These findings suggest that patients with epilepsy who are current daily smokers are at increased risk for more severe seizures, although there was no evidence in this sample that seizure risk increased with smoking rate; these individuals may benefit from specialized smoking cessation interventions.

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D180

10:15 AM-11:15 AM

THE EFFECTS OF PHYSICAL ACTIVITY ON THE DEPRESSION-SMOKING RELATIONSHIP IN ASTHMATIC ADULTS

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Introduction: High depressive symptoms are common in patients with asthma, are associated with worse asthma control, and have been associated with several unhealthy behaviours, such as smoking and low physical activity levels. However, to our knowledge, no studies have investigated the effects of physical activity on the association between depressive symptoms and smoking in adults with asthma. **Methods:** A total of 643 adults ($M(SD)$ age = 49 ± 14.1 ; 61% women) with confirmed asthma completed a series of questionnaires, including questions regarding their smoking habits (cumulative pack-yrs), leisure time physical activity (12-month physical activity recall: LTPA), and depressive symptoms (Beck Depression Inventory-II: BDI). **Results:** GLM analyses revealed a main effect of LTPA ($B = -0.302$, $p = .012$) but not BDI ($B = 0.037$, $p = .534$) on pack-yrs. In addition, there was an interaction between LTPA and BDI ($B = 0.058$, $p < .001$). All analyses included age, sex, and current smoking status as covariates. Post-hoc analyses revealed that in those with lower levels of LTPA there was no association between BDI and pack-yrs but that at higher levels of LTPA worse BDI was associated with increased cumulative smoking. **Conclusion:** Given that other studies indicate that smoking is more important for asthma outcomes, compared to depressive symptoms and low LTPA, our data suggest that, in adults with asthma, targeting reductions in depressive symptoms in those that are active could potentially lead to reductions in smoking. Further longitudinal data is needed to explore this issue further.

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D181

10:15 AM-11:15 AM

THE IMPACT OF RACE AND NEIGHBORHOOD FACTORS ON ANXIETY AND DEPRESSION AMONG SMOKERS

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Smokers with depression and anxiety have lower quit rates. Neighborhood context may impact mental health and smoking and may differ by race, but these associations are understudied. This study examines the salience of race and neighborhood factors for anxiety and depressive symptoms among low-income smokers. Participants were 224 African Americans and 225 Whites enrolled in a smoking cessation trial. Baseline surveys included demographics (e.g., age, gender), anxiety (GAD-7), depression (PHQ-10), The Everyday Discrimination Scale, race consciousness ("how often do you think about your race?"), Neighborhood Problems, and Social Cohesion and Trust (e.g., "this is a close knit neighborhood"). Census tract data were obtained from the American Community Survey (2008-2012). Poisson regressions were estimated separately for anxiety and depressive symptoms. Self-reported variables including race, demographics, perceived discrimination, race consciousness, neighborhood problems, social cohesion, and census-tract derived variables including a composite for area disadvantage (percent on public assistance, unemployed, < high school education, poverty, female headed household) and area racial composition were entered stepwise, moving from a race-only model to a full model including all covariates. In the race only models, African Americans had greater symptoms of both anxiety and depression ($RR = 1.4$ and 1.7 , respectively, $p < .05$) relative to Whites. Discrimination, race consciousness, neighborhood problems, and social cohesion were each associated with anxiety and depressive symptoms after controlling for demographics. The effects of race on anxiety symptoms were completely attenuated by discrimination and race consciousness but the association between race and depressive symptoms remained significant. In the full models, race consciousness, neighborhood problems, and census-tract characteristics were nonsignificant but discrimination and social cohesion were robust in their associations with anxiety and depressive symptoms. Racial differences in anxiety and depressive symptoms among smokers may be partly explained by discrimination and social cohesion. Perceptions of social cohesion may account for the impact of neighborhood context on mental health risk and, in turn, quit rates.

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D182

10:15 AM-11:15 AM

TOBACCO CURIOSITY AMONG U.S. MIDDLE AND HIGH SCHOOL STUDENTS, 2012-2014

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Introduction Efforts to prevent youth tobacco initiation are critical because most tobacco use starts during adolescence. Curiosity towards tobacco is a risk factor for youth initiation. We examined patterns in tobacco product curiosity across products (2012 to 2014) and the relationship between e-cigarette curiosity, perceived harm and addictiveness, and advertising exposure among U.S. students (2014 only). **Methods** We analyzed data from 2012 ($n = 15,508$) and 2014 ($n = 14,200$) National Youth Tobacco Surveys, school-based surveys of students grades 6-12. Changes in tobacco curiosity (cigarettes, cigars, smokeless) during 2012-2014 were assessed among students who never used tobacco. We assessed associations between e-cigarette curiosity, harm and addictiveness perceptions, and advertising exposure among never e-cigarette users for 2014. **Results** Though levels of cigarette and cigar curiosity did not change from 2012 to 2014, a reduction in smokeless tobacco curiosity occurred among males and non-Hispanic Black students (p In 2014, perceived e-cigarette harm was negatively associated with e-cigarette curiosity (p **Conclusions** Patterns of tobacco curiosity vary by product type. Among students who have never used e-cigarettes, there was greater curiosity among those with lower perceptions of harm. Further research is warranted to assess factors driving tobacco curiosity among youth, including advertising exposure.

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D183

10:15 AM-11:15 AM

USE AND EFFECTS OF "KEYWORDS" COMPONENT DURING A SMOKING CESSATION TEXTING PROGRAM FOR VETERANS

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SmokeFreeVET is an interactive text-messaging program launched in June 2013 to help military veterans quit smoking. Among other features, registered users can text one of four keywords—"urge", "smoked", "stress", and "crisis"—to receive immediate, relevant text-messaging support. The present analyses explore demographic factors associated with using these keywords and whether keyword use was associated with subsequent abstinence during a quit attempt. Out of 2,912 smokers who had enrolled in the program and set a quit date on or before July 21, 2015, 32% ($n = 929$) used at least one of the keywords during their latest quit attempt. According to multivariate negative binomial modeling of keyword usages, younger smokers, $F(4, 2025) = 4.44$, $p = .001$, smokers enrolled over a longer period of time post-quit, $F(4, 2025) = 3.51$, $p = .007$, and smokers who had made more prior attempts to quit via SmokeFreeVET, $F(4, 2025) = 18.98$, $p < .001$, used more keywords during their latest quit attempt. Sex, $F(4, 2025) = 1.29$, $p = .27$, as well as baseline smoking frequency, $F(4, 2025) = 1.74$, $p = .14$, and number of cigarettes smoked daily, $F(4, 2025) = 1.88$, $p = .11$, were not significant predictors. To determine whether keyword use was associated with subsequent abstinence, we used multilevel logistic modeling to analyze self-reported abstinence at days 7, 14, 21, 28, and 35 post-quit as a function of number of texts sent in the seven days prior to each of the self-reports. According to that model, greater use of the "urge" keyword predicted greater odds of subsequent abstinence ($OR = 1.46$, $p = .002$), whereas greater use of the "smoked" keyword predicted smaller odds of abstinence ($OR = 0.67$, $p = .008$). Use of "stress" ($OR = 1.35$, $p = .13$) and "crisis" ($OR = 1.70$, $p = .49$) were not significantly associated with abstinence.

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D184

10:15 AM-11:15 AM

WHICH MEDIA MATTER? DIFFERENCES IN LGBT AND NON-LGBT INTERACTIONS WITH TOBACCO MESSAGING ACROSS MEDIA SOURCES

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Purpose: Lesbian, gay, bisexual and transgender (LGBT) populations use tobacco at extremely high rates nationwide. The tobacco industry has a well-documented history of targeting LGBT, likely contributing to this disparity. This study explores whether exposure to and interaction with tobacco content on traditional and social media are associated with tobacco use behaviors among LGBT and non-LGBT populations. **Methods:** This study reports results from LGBT (N=1,092) and non-LGBT (N=16,430) respondents to a 2013 nationally representative cross-sectional online survey of US adults (N=17,522). Raw numbers, weighted percents, and significance levels will be described in detail. **Results:** Generally, LGBT respondents more frequently reported exposure to, searching for, or sharing messages related to tobacco couponing, e-cigarettes, and anti-tobacco on new or social media (Twitter, Facebook, YouTube and Tumblr) than did non-LGBT (p. **Conclusions:** There is evidence that LGBT may more frequently be exposed to and interact with tobacco-related messages on new and social media compared to their non-LGBT counterparts. Further, at each level of tobacco-media exposure LGBT populations appear to use significantly more tobacco than their non-LGBT counterparts. This research provides evidence that there is a need for tobacco control to focus efforts to reach LGBT populations across a variety of media platforms, particularly new and social media outlets, while not forgetting traditional avenues such as television.

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D185

10:15 AM-11:15 AM

ACTIVE COPING MEDIATES THE RELATIONSHIP BETWEEN PHYSICAL HEALTH AND RESILIENCE IN LIVER TRANSPLANT CANDIDATES

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Background: End Stage Liver disease (ESLD) is a chronic and progressive disease associated with significant morbidity and mortality. The only effective treatment is a liver transplant. Waiting for transplantation involves numerous physical and psychological challenges including uncertain wait duration, declining physical health, and psychosocial stress. Resilience (the process of adapting well in the face of adversity) is a known protective factor that has helped reduce psychiatric symptoms and enhance quality of life among multiple medical populations. **Objective:** To understand the impact of coping on the relationship between physical health and psychological resilience in ESLD patients awaiting liver transplantation. **Method:** One hundred-twenty waitlisted liver transplant candidates (*M* age = 56.0, *SD* = 8.7) were recruited from a single Northeast transplant center and asked to complete the Medical Outcomes Study (MOS) Short Form (SF-36), MOS Social Support Survey, Brief COPE, and Connor-Davidson Resilience Scale (CD-RISC). **Results:** The majority of patients were male (60.8%), Caucasian (75.8%), and had ESLD due to Hepatitis C (51.7%). Hierarchical multiple regression was used to examine the associations of physical functioning, social support, and coping style with resilience. Better physical functioning, higher social support, higher active coping and lower maladaptive coping were significantly associated with higher resilience (all *p*s < 0.05). A mediation analysis was used to examine the effect of physical functioning on resilience. Active coping (e.g., taking action, or exerting efforts to remove or circumvent the stressor) partially mediated the effect of physical functioning on resilience. Better physical functioning was associated with higher active coping, which was then associated with higher resilience (*CI*: -.07, -.01). **Conclusions:** These results suggest that teaching ESLD patients active methods of coping may be one pathway to promote resilience in the context of worsening physical health.

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D186

10:15 AM-11:15 AM

EXAMINATION OF CORE BELIEFS AMONG CANCER PATIENTS FOLLOWING ALLOGENEIC HEMATOPOIETIC CELL TRANSPLANTATION

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Background: Hematopoietic cell transplantation (HCT) may have a profound impact on patients and their core beliefs (i.e. things that happen to people are fair and controllable, religious/spiritual beliefs, and personal worth). This study examined the extent to which patients examined their core beliefs following cancer diagnosis and transplant and its relationship to demographic variables and other psychosocial outcomes. **Methods:** Patients scheduled to receive an allogeneic HCT were invited to participate in a larger study of quality of life following transplant. Participants completed the Core Beliefs Inventory (CBI), a 9-item measure assessing the extent to which they examined their core beliefs in the context of their cancer diagnosis and transplant [0=not at all to 5=to a very great degree], as well as measures of anxiety (STAI), depression (CES-D), and stress (PSS) at 3 months post-transplant. Correlation coefficients were used to explore relationships between examination of core beliefs, demographics, and distress. **Results:** One hundred twenty-seven HCT recipients (age *M*=52 years; 56.4% male) contributed data. The CBI scale showed good internal consistency (α =.89). Thirty-four percent of participants examined their core beliefs to a moderate degree, and 9% to a great degree. CBI total score did not differ by sex, age, race, partner status, education, income, or length of hospital stay, although Hispanic ethnicity was associated with greater examination of core beliefs (p.05). **Conclusions:** HCT is a stressful experience that causes some cancer patients to reevaluate their core beliefs about the world, themselves, and those around them. Examination of core beliefs, particularly spiritual or religious beliefs, may be associated with heightened distress. These findings highlight the need to further explore changes in core belief among HCT recipients and clarify implications for patient quality of life moving forward.

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D187

10:15 AM-11:15 AM

LATE TERM MEDICAL ADHERENCE AFTER LUNG TRANSPLANTATION

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BACKGROUND: Similar to many complex chronic disease populations, lung transplant recipients must follow a multicomponent medical regimen that deters adverse physical and psychosocial outcomes. However, nonadherence begins early posttransplant and continues to increase over time. Medical adherence in the late term years posttransplant – when physical morbidities and demands for care increase – has received little attention. Moreover, the effect of early term nonadherence on late term psychological well-being is unknown. We sought to a) examine the prevalence of late term nonadherence, b) identify early term predictors and late term correlates of late term nonadherence, and c) determine the relationship between early term nonadherence and late term depression and anxiety symptoms. **METHODS:** Sixty-four lung transplant recipients who had participated in an earlier prospective study were recontacted 6-11 years posttransplant. We assessed medical adherence by a combination of recipient and informant report and examined its relationship to other recipient characteristics. **RESULTS:** Rates of late term nonadherence ranged from 8% (substance use) to 89% (spirometry) and increased over time in the domains of medication, home health monitoring, exercise, smoking, and clinical follow-up (all *p*'s < .05). Early term nonadherence increased risk for late term nonadherence to clinical follow-up care and substance use restrictions (*p*'s < .01). Recipients were also at risk for late term nonadherence if they experienced less late term posttraumatic psychological growth, lived a greater distance from the transplant center, and experienced more respiratory symptoms (*p*'s < .05). Recipients who were nonadherent to exercise and diet recommendations early posttransplant reported greater late term depression and anxiety, respectively, than recipients adherent in those domains (*p*'s < .05). **CONCLUSIONS:** Medical nonadherence increases from early term to late term posttransplant but can be predicted by several factors. Future research should seek to develop and test early term interventions aimed at preventing late term nonadherence.

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D188

10:15 AM-11:15 AM

NONADHERENCE TO THE MEDICAL REGIMEN AFTER LUNG TRANSPLANTATION

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Background: Compared with other solid organ recipients, lung transplant recipients (LTRs) have lower long-term survival rates. In order to avoid post-transplant complications and maximize survival, LTRs are expected to adhere to a complex medical regimen. While numerous studies have explored adherence behaviors among LTRs, translating this body of research to practice requires a systematic examination of the evidence. This study aims to systematically review evidence regarding 1) the prevalence of post-transplant regimen nonadherence (NA); 2) risk factors for NA; 3) impact of interventions for promoting adherence; and 4) transplant-related clinical outcomes of NA among LTRs. **Method:** Following PRISMA guidelines, a literature search was conducted in 5 citation databases through April 1, 2015. The keywords of “lung transplant” were paired with components of post-transplant medical regimens. Articles had to: 1) report LTRs’ post-transplant NA to any element of the medical regimen, 2) focus on adults (≥ 18 years old), 3) report quantitative data and 4) be published in English. **Results:** Thirty-one articles were included, with 23 describing NA rates (among which 12 examined risk factors for NA), 6 on effects of interventions to promote adherence, and 2 on clinical outcomes associated with NA. The sample sizes ranged from 22 to 331 with a pooled total sample of 3,461. Together, these articles suggest that NA to the medical regimen is prevalent (e.g., medication NA ranged from 2.3%–72.2%; self-monitoring NA ranged from 16%–65.9%), varies by elements of the regimen, and is not consistently associated with any single risk factor. Intervention studies yielded a wide range of effect sizes for intervention impact on adherence (correlation coefficients: 0.05–0.45). Articles examining the relationship between NA and mortality found a weak correlation ranging from 0.07–0.15. Major limitations across studies were weaknesses in the methodologies for measuring NA, varying definitions of NA, the lack of a theoretical basis for interventions, small sample sizes (impacting both power and precision), and limited follow-up. **Conclusion:** This review underscores the need for rigorous studies of risk factors and clinical outcomes of NA in LTRs and for large-scale randomized controlled trials to examine the effects of interventions on promoting adherence.

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D189

10:15 AM-11:15 AM

PATTERNS OF AND FACTORS ASSOCIATED WITH ADHERENCE TO SELF-MONITORING IN LUNG TRANSPLANT RECIPIENTS

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Introduction: Lung transplant recipients (LTRs) are at high risk for rejection and infection. Self-monitoring (SM) of lung function and signs and symptoms is crucial for timely detection of complications. Yet, nonadherence rates to SM are high and evidence regarding patterns and predictors of nonadherence to SM is limited and inconclusive in LTRs. The purpose of this study was to identify patterns of and factors associated with adherence to SM in LTRs over the first year after transplant. **Methods:** This secondary analysis used longitudinal data from the usual care arm of a randomized clinical trial. Participants in usual care track SM activities at home using a paper-and-pencil log per transplant program requirements. Adherence (AD) was calculated as the actual # of days per interval LTRs recorded on the paper log divided by the possible total # of days. We calculated % of AD to daily SM for the following intervals: hospital discharge–2 months, 3–6 months, and 7–12 months. Group-based trajectories were used to identify distinct patterns of adherence to SM. We then used logistic regression and linear mixed modeling to examine baseline and longitudinal predictors of group membership. **Results:** The sample ($N=91$) was mostly white (87.9%), male (61.5%), with a mean age of 57.2 ± 13.8 years. Trajectory analyses revealed 2 groups: better vs. poorer AD. The better AD group ($n=62$, 68.1%) started with a high % of AD (62.9%) to SM and gradually declined to 32.6% over 12 months. The poorer AD group ($n=29$, 31.9%) had a low % of AD at 2 months (10.6%) and dropped to 0% at 12 months. Using multivariate logistic models, the adjusted odds of being in the poorer AD group were LTRs who were female 3.5 (95% CI, 1.1–11.6), nonwhite ethnicity 11.1 (95% CI, 1.1–114.5), reported higher anxiety 9.3 (95% CI, 2.2–40.3), and held lower internal health locus of control beliefs 1.1 (95% CI, 1.04–1.3). The better AD group had a significant increase in self-care agency from 2 to 6 months ($p=0.03$) and at 6 months, they had higher levels of self-care agency than the poorer AD group ($p=0.02$). **Conclusions:** This study highlights several baseline factors to help early identify LTRs at high risk for poor adherence. Findings also point to the need for clinical interventions which ameliorate post-transplant anxiety and promote LTRs’ self-care agency and sense of personal control over their health.

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D190

10:15 AM-11:15 AM

THE IMPACT OF RECOVERY-RELATED INFORMATION ON PROSPECTIVE LIVING KIDNEY DONORS

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The gap between the number of individuals in the United States who need organ transplantation and the number of donated organs is formidable and increasing on an annual basis. Kidneys represent the most needed organ. People can register to become cadaveric organ donors or, in the case of kidneys, can also volunteer to be living donors. Women in the United States have served as living kidney donors with significantly greater frequency than men. Current literature indicates that primary concerns for prospective male donors include short- and long-term health and negative financial repercussions. The researcher provided general information about the organ donation process and a fictitious vignette about an individual who needed a kidney to 499 respondents. Approximately half of respondents also received short- and long-term recovery-related information (RRI). Respondents completed a condensed and revised version of the Organ Donation Attitude Scale (ODAS) as well as open and closed questions on a brief questionnaire to assess attitudes toward living donation. The researcher analyzed results via a 2×2 ANOVA and found that overall, women showed a more positive attitude than men for serving as a living donor ($p=.015$), regardless of RRI. A pairwise comparison indicated that men who received RRI ($M=103.20$, $SD=13.99$) showed a more positive attitude ($p<.05$) toward serving as a living donor compared to those who did not ($M=98.19$, $SD=16.51$). These findings have important implications for the solid organ transplant community and behavioral medicine.

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A

Abara, Jose, C135
 Abernethy, Alexis D., B170, C170
 Ablah, Elizabeth, B149
 Abraczinskas, Michelle, A095
 Abrams, David B., C155
 Abrams, Jasmine, B031, C068
 Abroms, Lorian C., D178
 Adams, Roy, D174
 Adams, Swann, N018
 Adams, Zachary, C042
 Adamson, Brynn, D127, D152
 Adu-Brimpong, Joel, B140
 Aftosmes-Tobio, Alyssa, B087
 Agaronov, Alen, A112
 Agne, April A., D051, D058
 Agudelo, Diana Maria, B035
 Aguilar, Rosalie P., A058
 Ahluwalia, Jasjit S., D181
 Ahmad, Zeba, A056
 Ahmed, Maroof, N028
 Ahmed, Naadia, C010
 Ai, Amy L., N031
 Aikin, Kathryn J., C088, D033
 Ainsworth, Barbara, C089
 Ainsworth, Matthew C., A098a
 Al Sayah, Fatima, A089
 Alabduljabbar, Manal, C127
 Albanes, Demetrius, C104
 Al-Barwani, Saada, C045
 Alberg, Anthony, D003
 Albrecht, Terrance, B002
 Alcaide, Maria, B053, B056
 Alderfer, Melissa A., A004
 Alderson, Courtney, D074
 Aldrich, Lisa, B111
 Alert, Marissa D., B079
 Alexander, Ramine, A026
 Al-fagih, Zaid, N028
 Alfano, Catherine, C009
 Alfonso Barry, Jacqueline, C159
 Allison, Jeroan, A045
 Almeida, Fabio A., A101, D060
 Almeida-Suhett, Camila, C101
 Alsallloom Garcia, Sami, C135
 Altman, Myra, C130
 Alvarez, Clare P., B018
 Amiel, Chelsea R., B025
 Amireault, Steve, C004
 Amoozegar, Jacqueline B., D033, D164
 Andersen, Barbara L., A029, C178, D004
 Andersen, Peter A., D166
 Anderson, Ashley, C042, C142, C145
 Anderson, Chelsea, D010
 Anderson, Mollie B., B043
 Anderson, Timothy, B057
 Anderson Goodell, Erin M., C084
 Anderson-Hanley, Cay, D133
 Andrea, Sarah B., B069, C073
 Andreae, Susan, D128
 Andrew, Michael E., B032, B034, D169
 Angadi, Siddhartha S., C040

Annunziato, Rachel, C036
 Antick, Jennifer R., D190
 Anton, Philip M., D150
 Antoni, Michael, A014, B025, C005, C019
 Apers, Silke, C082
 Apte, Sachin, C019
 Araiza, Ashley M., B075
 Arbour-Nicitopoulos, Kelly, D075
 Arciero, Paul, D133
 Arheart, Kristopher, B053
 Ariel, Aviva, A049
 Arigo, Danielle, A054, A098, B135, D143
 Arneson, Kent, D003
 Armin, Julie, D176
 Armstrong, Sarah, A100
 Arndt, Jamie, B004
 Arniella, Guedy, A019a
 Arnold, Kimberly T., B173
 Arora, Neeraj K., B112
 Arredondo, Elva, B122
 Arsenault, Andre, B028
 Artis, Jance, A042
 Arvey, Sarah R., C139
 Aryal, Subhash, C096
 Asare, Matthew, A018, C001
 Ash, Arlene S., A045
 Ash, Tayla, A112
 Ashley, Jeff, A005
 Askew, Sandy, B123
 Aspinwall, Lisa G., A006, A017
 Atkins, James, A018
 Augustson, Erik, C141, D183
 Aujla, Sarita, C158
 Aunio, Lara, B067, D147, N005
 Austin, Christine, B040
 Au-Yeung, Friendly S.W., A039, B100, D091
 AuYoung, Mona, A077
 Avant, Amanda, B037
 Awada, Samantha, N025
 Awick, Elizabeth, A052, B006, B109, B133, D144
 Ayala, Ernesto, D186
 Aycock, Rebecca, A111, D162
 Ayeroff, Julia, D097
 Ayers, Colby, B140
 Aylward, Laura, B116
 Azarbayejani, Ali, C072
 Azaria, Asaph, C150
 Azizoddin, Desiree, D097

B

Babowitch, Jacklyn, C067, N008
 Bachman, Diana, B059
 Bacon, Simon L., B028, B072 D180
 Badaoui, Hanadi, C132, D073
 Badr, Hoda, A056
 Baig, Sabeeh, C154, C165, D170
 Baik, Kyoung, N025
 Bailey, Donald B., D042
 Bakalar, Jennifer L., A063
 Baker, Ashley C., D050
 Baker, Cassandra J., N025

Baker, Tamara, D113
 Balasubramanian, Vidhya, A078
 Baldwin, Austin S., C092
 Balk, Sophie J., C032
 Balto, Julia, D152
 Bampton, Erin, B138
 Banducci, Sarah E., D144
 Bangdiwala, Shrikant I., C045
 Banister, Madeline, B030
 Banno, Daniella, B016
 Baranowski, Tom, A082, C108
 Barber, Jessica, B094, C115
 Barcelos, Nicole, D133
 Barnes, Rachel, B094, C115
 Baron-Epel, Orna, B179, B182, D096
 Barradas, Susana, A087
 Barranco, Carolyn Y., D050
 Barrett, Dominic, C109
 Barringer, Denise, B018
 Barry, Erin, A130
 Bartholomew, John, D142
 Barton, Debra, B040
 Barve, Apurva, C062
 Basen-Enquist, Karen, B018, B092
 Bass, Sarah Bauerle., D025
 Bates, Carolyn, A115, B073, C083
 Bates, Marsha, B178
 Baumann, Nate L., C053, D048
 Beach, Scott R., B071
 Beale, Eleanor, B071
 Bean, Melanie, A057, C109
 Bean, Sandra J., B049
 Beauchamp, M.R., A082, C108
 Beaumont, Amelia, B020
 Becerra, Ariana, C135
 Beck, Larry, D166
 Beckham, Jean C., B139, D183
 Beecher, Julie A., A110
 Beehler, Gregory, A102, A108, C074, D024
 Befort, Christie, B086
 Beland, Melanie, B072, D180
 Belcher, Arianna, B071
 Belcher, Britni, A027, A040
 Bellg, Albert, D070
 Bellini, Paula, D040, D071
 Bender, Catherine M., D008
 Bender, Jackie L., B022
 Benitez, Tanya, D139
 Bennett, Gary G., B123
 Berg, Cynthia, C051, D050
 Berg, Michael B., C159
 Bernard, Paquito, A008, N027
 Bess, Jukelia, A062, D013
 Betts, Kevin, C088
 Bevans, Margaret, B039
 Beverly, Elizabeth A., C056
 Bhowmick, Amrita, D121
 Biddle, Caitlin, D037, D168
 Biello, Katie, B066
 Biermann, Janis, D164
 Biggs, Quinn M., C086
 Bilbro, Nicholas, D060

2016 Annual Meeting Supplement

Bilheimer, Alicia, A100, C160
Birmingham, Wendy C., B103, B113, C077, C136, D076
Bishop, George D., B060
Black, Ryan, A033, D163
Blackman, Loneke T., C125
Blackmon, Jaime E., B011
Blackstone, Sarah, D035
Blake, Kelly D., A009
Blanchard, Chris, B013, D129
Blanch-Hartigan, Danielle, B004, B112, C072, D111
Blankenburg, Rebecca, D044
Blazekovic, Sonja, C156
Bleich, Sara, C100
Blomberg, Bonnie B., B025
Blouin, Jocelyn E., D154
Bluethmann, Shirley M., C009
Blumstein, Lara B., C116
Boal, Ashley L., D178
Bober, Sharon L., B011
Bock, Beth, B106
Bockrath, Margaret, C119
Bogdan, Ryan, D105
Boguszewski, Margaret, N004
Bohnert, Amy, A115, B042, B073, C083
Boland, Cody L., A014
Bond, Dale S., C114
Bondy, Melissa, D130
Bonuck, Karen, A120, B162
Bopp, Melissa, A097
Bord, Shiran, B179, B182
Borglund, Erin, D174
Borushok, Jessica, N013
Bosworth, Hayden B., B139
Botkin, Jillian, B077
Bouchard, Laura, B025
Boudewyns, Vanessa, C088, D159
Boulanger, Vanessa M., B101
Bounsanga, Jerry, B103, C077, C136, D076
Boushey, Carol, C117
Boutte, Alycia, D077
Bowen, Deborah, B026, B098, D086
Bowling, April B., A084
Boyd, Hannah E., C024
Boyd, Patricia, B164
Boyer, Bret A., C055
Boyer, Edward W., C146
Boyer, William, A096
Boyle, Fran, B020
Boynton, Marcella, D171
Bradley-Ewing, Andrea, N029
Brady, Benjamin, D175
Brady, Jacquelyn M., D138
Brady, Sheila, B160
Brandt, Cynthia, B110
Brandt, Heather M., N018
Brantley, Phillip, A069, B164
Brawley, Lawrence, B124, B128, D141, D154
Breland, Jessica Y., A078
Brent, Victoria, B055
Brewer, Benjamin, A019

Brewer, Noel T., C031, C154, D170, D171
Briand, Samantha, B072, D180
Bright, Emma E., D011
Brito, Fabiana, A026, B081
Broaddus, Michelle, B156, C059
Brock, Donna, A026
Brock, Ricky, A069, B164
Broderick, Patricia, A116
Brogan Hartlieb, Kathryn, A037
Bronson, Caitlin, B041
Brooks, Alyssa T., A123
Brooks, E. Marshall, A111
Broussard, Cheryl, D164
Brown, David, C003, C014
Brown, Judy A., B079
Brown, Lisa L., B139
Brown, Megan, B056
Brown, Roger L., C110
Brown, Samuel, D039
Bruce, Jared, C163
Brunner-Jackson, Brenda, C042, C142, C145
Bryan, Angela, D080
Bubly, Rachel, A010
Buchholz, Laura J., A102, C074
Buckman, Jennifer, B178
Budhwani, Henna, D103
Bukach, Ashley, C075
Bullard, Tiffany, A085, B118, C038, C040
Buller, David, A005, B177, D166
Buller, Mary, A005
Buman, Matthew, C040
Bunch, Michelle, A019
Burchfiel, Cecil, B032, B034, D169
Burdette, Kimberly, C083
Burger, Amanda, C115
Burke, Lora E., A071, B095, C121, C122, C128, C129, D188
Burmeister, Jacob, B091, N013
Burney, Monica, C114
Burnham, Kaylee, C065
Burrell II, Larry, B062
Burris, Jessica L., D003
Buscemi, Joanna, C116
Buse, John, C045
Bushunow, Peter, C001
Butler, Jorie, A106, D039
Butler, Stephen F., D163
Butler-Ajibade, Phoebe B., A066
Butow, Phyllis, B020
Butryn, Meghan L., A046, A054, A074, B082, B135, C120, N020
Buzaglo, Joanne S., D015
Bygrave, Desiree, A060, A067
Byron, M. Justin, C154, D170

C

Cárdenas Villarreal, Velia M., C027, C028
Caccavale, Laura J., C109
Cachelin, Fary M., D066, D167
Cahn, Elizabeth, C014
Cain, Kelli, B120

Poster Author Index

Cairney, John, D075
Caliboso, Menchie, N030
Callender, Clive, A060
Calloway, Eric, D082, D087
Calo, William A., C031
Cameron, Rebecca P., D061
Campbell, Alfonso, A060
Campbell, Angela G., B142, N023
Campbell, Lisa, A105
Cance, Jessica D., C079
Cannuscio, Carolyn, B045
Capano-Wehrle, Lisa, A128
Carels, Robert A., B091, N013
Carey, Jeffery A.P., B114
Carey, Kate B., B153, C063
Carey, Michael P., B054, B153, C063
Carlisle, McKenzie, B113
Carlson, Jordan, A114, B120
Carmody, Kari, D125
Carpenter, Kelly M., B084
Carr, Meagan, C132, D073
Carr, Russell B., C086
Carranco, Ana, D133
Carreiro, Stephanie, C146
Carretta, Henry, N031
Carroll, Allison J., C156
Carter, Marjorie, A106
Carter, Patricia, C151
Carter-Harris, Lisa, C021
Cartmel, Brenda, D010
Cartmell, Kathleen, D046
Carucci, Daniella, B079
Carver, Charles S., B021, B025
Cary, Miranda A., D154
Casey, Kaitlyn, C043
Cassidy, Caitlin, B127
Cassidy, Kristin A., C075
Cassidy, Omni, B160
Casteel, Danielle, A107
Castillo, Maranda L., B075
Catley, Delwyn, C163, N029
Cave, Breanne, D063
Celano, Christopher, B071
Center, Kimberly, B180, B181
Cervoni, Cynthia, A120, B090, B162
Cessford, Pheona L., B114
Cessna, Julie, B003, B012
Chai, Peter, C146
Champagne, Catherine, B164
Champine, Marjan, A006
Champion, Jane D., C151
Chan, C.H.Y., C094
Chan, Cecilia L.W., B159, C081
Chan, Celia H.Y., B159, C078, C081, D038, D090
Chan, Hoi Yan, A030, B144
Chan, Jessie S.M., B159, C081
Chan, Sophia, A031
Chandler, Helena K., N017
Chang, Mei-Wei, C110
Chang, Tzu-Chau, C034
Chao, Lo-Hsin, A020
Chapman, Jim, B120

- Chapman, Robert A., B002
 Charles, Luenda E., D169
 Chaudhari, Vipul, C062
 Chawla, Neetu, B112
 Chen, Kong Y., B160
 Chen, Lei-Shih, D067
 Chen, Minxing, B018
 Chen, Wei, B103, C136, D076
 Chen, Wen, D102
 Chen, Yifan, C101
 Cheng, Chi-Chia, C034
 Cheng, Hoyee H., C010
 Chenki-Shapsa, Adi, C085
 Chernoff, Sofia M., A128
 Chernyak, Yelena, B037
 Cherrington, Andrea, D051, D058
 Cherry, Chauncey, C065
 Chiles, Shannon, B079
 Chisembele, Maureen, B053, B056
 Chitkara, Maribeth, C032
 Chmielewski, Michael, C092
 Cho, Dalnim, D088
 Choi, Anna W.M., C081
 Choi, Emma, B029
 Choi, Karmel, B057
 Choi, Kwang, A130
 Chou, Wen-Ying Sylvia, A009
 Christie, Israel C., D130
 Christofferson, Dana, D183
 Christopher, Beth-Anne, A028
 Christy, Shannon M., C023
 Chua, Ian, D044
 Chung, Emma, A033
 Chung-yi, Chiu, D152
 Church, Timothy, A069, B164, D137
 Churchill, Linda C., B097, C097
 Ciccolo, Joseph T., A124, C058
 Ciminelli, Joseph, D153
 Ciro, Carrie, D140
 Clark, Dave, A099
 Clark, Matthew M, A075
 Clarke, Jennifer, N006
 Cleland, Charles, D030
 Clements, Andrea D., B167
 Clennan, Mary Kate, B079
 Clifford, Heather, N005
 Clifford, Kathryn L., N014
 Coa, Kisha I., B004, C009, C141, D177
 Coburn, Shayna, D032
 Coe, Kathryn, D139
 Coelho-e-Silva, Manuel, N002, N004
 Coffman, Donna L., D030
 Cohee, Andrea, B010
 Cohen, Alex, N009
 Cohen, Brian, D133
 Cohen, Jason D., A085, B118, C038, C040
 Cohen, Katherine, D133
 Coke, Lola, A028
 Colditz, Graham, A001
 Colditz, Jason B., A121, A125
 Cole, Helen, C003, C014
 Cole-Lewis, Heather, C141, D177
 Coleman, Jessica, C062
 Cole-Mattson, Colleen, C138
 Collett, David, C050
 Commissariat, Persis, C037
 Conboy, Sarah, B079
 Concha, Alyssa, D101
 Condy, Emma, B030
 Conley, Claire C., D009
 Conley, Yvette, C172
 Connelly, Kay, A036
 Connolly, Kathryn S., D116
 Connolly, Mary C., D017
 Consedine, Nathan, C164
 Contrada, Richard J., B041
 Conway, Terry, B120
 Cook, Brittany, A021
 Cook, Daniel, B019
 Cook, Stephen R., C130
 Cook, Victoria, B102
 Cori, McMahon, D016
 Cornejo, Laesha, D160
 Corner, Geoffrey, B145, B148
 Corno, Catherine, C161
 Corral, Irma, A062, D013
 Correa, Lauren C., B080
 Costas-Muniz, Rosario, C007
 Coups, Elliot J., B024
 Courneya, Kerry, B013, D129
 Courtet, Philippe, N027
 Courville, Amber B., B160
 Cox, Matthew, B092
 Coyle, D. Tyler, D068
 Crane, Melissa M., B085
 Crane, Tracy E., D172
 Craner, Julia, A075, N003
 Crato, Ines B., B125, B126
 Crawford, Derek, D140
 Creber, Chloe, B042
 Cremeans-Smith, Julie, D117
 Crick, Kent, D52
 Criddle, Catherine A., B050
 Crimmarco, Anthony, A079
 Cripe, Larry, B016
 Cromwell, Jerry, C173
 Cronan, Terry A., A107, C134
 Crow, Scott J., C118
 Cruess, Dean G., C065, D161
 Crum, Anthony B., B103, C136, D076
 Cubic, Barbara A., N016
 Culos-Reed, S. Nicole, B019, D156
 Cunningham, James, D176
 Cunningham, Karlene, B151, C063
 Currier, Joseph M., C170
 Curwick, Kevin, N003
 Cusanno, Brianna, D045, D047
 Cuthbert, Colleen, B019, D156
 Cutter, Gary, D166
 Cuzick, Jack, D165
 Cyphers, Natalie A., B167
 Cyprien, Fabienne, N027
- ## D
- Dacuyan, Nicole, C086
 Dahl, Alicia A., C112
 Damschroder, Laura J., A077
 Danford, Cynthia, C128, C129
 Daniel, Carrie R., D130
 Daniels, Laura, A105
 Darabos, Katie, C022
 Darlow, Susan, A011
 Das, Bhibha M., D122
 Daughters, Stacey, B061
 David, Finitis, C065, D161
 Davidson, Tatiana, C145
 Davies, Alexandria, D167
 Davies, Susan L., D128
 Davila, Marissa, A010
 Davis, Abbey, B059
 Davis, Jaimie, A027
 Davis, Kimberly M., D040
 Davis, Lisa, N018
 Davis, Whitney, A012
 Davison, Kirsten, A084, A112, B087
 Davy, Brenda, A081, C148
 Day, Terry, D003
 De, Prabal, D103
 de Groot, Mary, D52
 de Moor, Janet, B004
 de Rooij, Mariëtte, D118
 de Vet, Hendrica, D118
 DeAngelis, Courtney L., N005
 Deatrich, Kate, C055
 Deb, Arijita, D029
 DeBiasse, Michele A., D086
 DeCarlo Santiago, Catherine, B073
 DeCator, Draycen D., B116
 Decker, Kristina, A065
 Decker, Sharon, A032
 Degener, Renee T., A049
 Dejanipont, Bunyong, D065
 Dekker, Joost, B169, D118
 Delahanty, Douglas, D117
 Delgado, Adriana, B040
 Demark-Wahnefried, Wendy, A098a
 DeMartini, Kelly S., D185
 Demidowich, Andrew, B160
 Dennis, Paul A., D183
 Depaoli, Sarah, D109
 Desai, Binita, C062
 Despres, Cliff, A058
 Deuster, Patricia, C101
 DeVito Dabbs, Annette, D187, D188, D189
 Devlaeminck, Austen, A119
 Devlin, Maura G., C122
 DeVoe, Jennifer, A111
 DeVon, Holli A., B040
 DeVos, Gabriele, B044

2016 Annual Meeting Supplement

Dew, Mary Amanda, D187, D188, D189
DeZelar, Margaret, A115, C083
Dhillon, Haryana M., B020
Dibble, Kate, C171
Dickson-Gomez, Julia, B156
DiClemente, Carlo, C161
Dietz, William H., C130
Diggins, Allyson, C005
DiLorenzo, Terry, B172
DiMartini, Andrea, D187
Ding, Ding, D145
Dinkel, Danae, B132, D134
Dionne, Carol, D140
Distelberg, Brian, D027
Dlugonski, Deirdre, D122
Dochat, Cara, A046
Docherty, Sharron, D151
Dombrowski, Stephan, D124
Dominick, Gregory M., A088, D148
Donaldson, Elisabeth, D182
Dong, Frank, B149
Dong, Ming, A037
Dong, Roucheng, D018
Donnelly, Joseph E., A073, C123
Doodeman, Suzan, B169
Dopp, Richard, B064
Dorflinger, Lindsey, A035
Dorfman, Caroline S., A029
Dornelas, Ellen, D023
Driban, Jeffrey B., B130
Driscoll, Deborah L., D014
Driscoll, Mary, B110
Dubé, Laurette, D085
Dumenci, Levent, B014
Duncan, Markus, D075
Dunn, Caroline G., N011
Dunne, Eugene, B062
Dunsiger, Shira, A081, A124, B023, B106, C058
Dunton, Genevieve F., A040, B089
Dupuis, Roxanne, B045
Dustin, Long, B076
Dvorakova, Kamila, A116
Dwyer, Laura A., A064
Dzubur, Eldin, A040, B089

E

Eakin, Michelle, D032
Eaton, Lisa, C064
Eaton, Renee, A093
Eberth, Jan M., D046
Eddens, Katherine, D094
Edwards, Richard, C162
Eggly, Susan, B002
Ehlers, Diane K., A052, D144
Ehrentraut, Jennifer, D163
Ehrhardt, Anna c., B050
Eisenberg, Miriam H., B078, D053, D079
Eisingerich, Andreas, N028
Eklund, Kathryn, A130
Ekstedt, Mirjam, C147, D108
Elavsky, Steriani, A116
El-hilly, Abdulrahman, N028

Eliasson, Arn, B038
Elisabeth, Markman, B055, B063
Elliot, Marc, D064
Ellis, Erin, A013, D037, D168
Elsesser, Steven A., C061
Elston Lafata, Jennifer, D162
Elwood, William N., C144, D092, D102
Emerling, Eric, N003
Emerson, Lauren, B064
Emerson, Natacha D., C131, D027
Emery, Rebecca, B147
Emery, Sherry, D184
Emley, Elizabeth, C102
Emma, Croghan, C158
Emmanuel, Patricia, C062
Emory, Kristen, D184
Endevelt, Ronit, C098
Engel, Alison, B079
Engelberg, Jeremy, B041
Engler, Renata, B038
English, Thomas, D174
Ennett, Susan T., C165
Ennis Whitehead, Nicole, B062
Ensari, Ipek, A086, B070
Epperson, Anna E., C157
Errisuriz, Vanessa, D142
Escobar, Oscar, C135
Esperat, Christina, A032
Esposito, Layla, D102
Estabrook, David, B088
Estabrooks, Paul, A026, A093, A101, B081, D060
Etz, Rebecca, D162
Etzel, Lena, C107
Evans, Brittney C., A070, B082, C113, C126
Evans-Hoeker, Emily, D043
Everette, Alicia, B129
Everhart, D Erik., A113, C149
Ewing, Linda, B095, C128, C129

F

Fagundes, Christopher, C076
Faith, Myles S., A048
Fallon, Elizabeth, A041
Fan, Jun, C172
Fang, Hua, A045
Fanning, Jason, A052, B125, B126, C095, D144
Fant Brzoznowski, Kathryn, B064
Farzan, Rosta, C137
Fasano, Matthew, N005
Faulkner, Guy, D075
Faurot, Keturah R., C045
Fazzino, Tera, B086
Feast, Joshua, C072
Fehon, Dwain, D185
Feig, Emily H., A074
Feinberg-Eddy, Amelia, A126
Fekedulegn, Desta, B034, D169
Feldman, Jonathan, B044
Feliciano, Leilani, C053, D048
Fellmeth, Heather, D147
Felt, John M., D109

Poster Author Index

Feng, Yi, A055
Fenstermaker, Michael, C014
Ferguson, Ph.D., Robert, D006
Fernandes, Rômulo, N002, N004
Ferrucci, Leah M., D010
Fetters, Michael, C073
Fields, Julie, B183
Finck Barboza, Carolyn, A087, D081
Fink-Miller, Erin, A068
Finlayson, Marcia, D152
Finney Rutten, Lila, B112
Fiordelli, Maddalena, D106
Fischl, Margaret, B053
Fish, Laura J., C160
Fisher, Deborah, B007
Fisher, Edwin B., D057
Fitts Willoughby, Jessica, D033
Fitzgibbon, Marian L., C116
Fitzhugh, Eugene C., A096
Fleary, Sasha, C133
Fleisher, Linda, D025
Fleming, Kimberly, B086
Fletcher, Angela A., D093
Fletcher, Richard R., D030
Flink, Maria, C147
Flora, Parminder K., B022, B128, D154
Florindez, Lucia I., D100
Flynn, Megan, B137
Foley, Frederick W., D072
Foley, Perry, B123
Fong, Angela J., C004
Fong, Ted C.T., A039, B100, D091
Foran-Tuller, Kelly A., A035
Forbes, Cynthia, B013, D129
Ford, Jessica, C168
Forman, Evan, A046, A070, B082, C113, C120, C126, N020
Forman, Michele R., D130
Forthofer, Melinda, B173
Fortin, Auguste H., A035
Foster, Jasmeka K., C024
Fox, Andrew T., C163, N029
Fox, Kristen R., D098, D099, D187
France, Christopher R., D098, D099, D114
Francisco, Buchting O., D184
Francis-Johnson, Patricia, A032
Franckle, Rebecca, D084
Frank, Lawrence, B120
Franz, Mackenzie, C086
Frayne, Susan M., A078
Frelier, Johannah M., C030
Freund, Karen, C133
Friedman, Bruce, B029, B030
Friedman, Daniela B., D046
Frisard, Christine, B088
Fritschi, Cynthia, D055
Fuller, Claire, B038
Fullerton, Carol S., C086
Fultineer, Courtney, B177
Funderburk, Jennifer, A102, C074
Fung, Yat-Lui, C078
Furtado, Karishma, D045, D047

Poster Author Index

G

Gaines, Alisha, N011
Gainforth, Heather L., C158
Gaissert, Philipp, D012
Galescu, Ovidiu, B160
Galici, Elizabeth, C036
Galipeau, Brittany, D110
Gallion, Kip, A058
Galluzzi, Tomas, B033
Gammon, Deede, D108
Gangi, Jeanette, B154
Ganoczy, Dara, B064
Ganter, Claudia, B087
Gany, Francesca, A019a, C007
Garcia, Andrea, C033
Garcia, Elysia, C096
Garcia, Mauricio, C080
Garden, Adam S., B018
Gardiner, Casey K., D080
Garduno Ortega, Olga, C007
Garey, Lorra, B150
Garg, Rahul, B046, B047
Garland, Sheila, A003
Garofalo, Robert, B066
Garroway, Andrea, B110, D070
Garza, Codie, A129, A131
Garza, Elena MT., C111
Gaspar, Monika, C120
Gavin, Kara L., C118
Gay, Jennifer L., A080
Gaylord, Susan A., C045
Gehtland, Lisa M., D042
Geller, Alan, C032
Geller, David, C010
Geller, Jessica, D185
Geller, Pamela A., B051
Genoff, Margaux C, D012
Gentry, Amanda L., D008
Georgescu, Vera, N027
Gerend, Mary, A012
Gesser-Edelsburg, Anat, B179, B182
Geynisman, Daniel M., D025
Ghandeharioun, Asma, C150
Ghanouni, Alexander, D021
Ghayur, Haris, B136
Giacobbi, Peter, B076, D176
Gianaros, Peter, C010
Giang, Ethan, C029
Gibson, Bryan, A106
Gibson, Cheryl, A073
Gicevic, Selma, B087
Gierc, Madelaine, D141
Giles, Leila M., A125
Gilkey, Melissa B., C031
Gill, Kelly E., C043
Gillenwater, Ann Marie., B018
Gilrain, Kelly, A128, B055, B063, D016
Gil-Rivas, Virginia, B163, D066, D167
Glück, Stefan, B025
Glanz, Karen, A114
Glasgow, Russell E., B112
Glass, Carol R., B174
Glover, Crystal M., B108
Goble, Daniel J., C090
Godleski, Linda, D116
Goebert, Deborah, B065
Goel, Pooja, C024
Goessl, Cody, A101, D060
Goetz, Jeannine, A073
Goetze, Rachel, B075
Goetzman, Sara M., A014
Goggin, Kathy, C163
Goheer, Farah, B044
Golant, Mitch, D015
Golaszewski, Natalie M., D142
Gold, Geoffrey S., A019a
Gold, Heather, C014
Goldbacher, Edie, A092
Goldman, Rachel, B044
Goldman, Veronica, C099
Goldman Rosas, Lisa, B093
Goldstein, Carly Michelle., C114
Goldstein, Stephanie P., A070, B082, C126
Gomez, Scarlett L., D018
Gonzalez, Brian D., C019
Gonzalez, C. Javier, A019a
Gonzalez, Jeffrey S., C037
Goode, Marissa, C041, C044
Goode, Rachel, A071, C122, C128, C129
Goodwin, Cheryl, B173
Goodwin, Renee, B044
Goossens, Eva, C082
Goran, Michael, A027
Gordon, Judith, D176
Gordon, Mallorie, C032
Gorman, Pamela, B055, B063
Gorrostieta, Cristina, C072
Goshe, Brett, C065
Gossett, Jada, A046
Gothe, Neha, D131
Goubert, Liesbet, C082
Goulet, Carol, C152
Goyal, Neha, D004
Goydos, James S., B024
Grace, Jennifer, B147
Graham, Alice, C101
Graham, Dan J., C100, D034, D146, D149, N019
Grahmann, Bridget, A017
Grannum, Gillian D., B170, C170
Grant, Shara, B030
Grantner, Mary, A028
Graves, Amy, B045
Graves, Kristi D., A002, C002, C071
Gray, Avia, D112
Gray, Laura, D093
Gray, Rebecca J., C162
Gray, Samantha M., B121
Graydon, Meagan, C161
Greaney, Mary L., B123
Grebler, Tamar, C065
Green, Amanda, C173
Green, Jessie, D078
Greenawalt, Katie E., D136
Greenberg, Alexandra, B104

Greenberg, Lauren, N017
Greenberg, Mark, A116
Greene, Julie, D084
Greene, Kenneth, D117
Greenshtein Littman, Iva, D157
Greg, Kubicek, D016
Gregory, Melissa, B147
Grey, Margaret, A050
Griffith, Darienne, B059
Griffith, Julia, A005
Grilo, Carlos M., A059, C174
Grinberg, Amy S., D120
Groggin, Kathy, N029
Gromisch, Elizabeth S., D072
Gross, Howard, C001
Grothe, Karen B, A075
Grov, Christian, C060
Gruenewald, Tara L., C175
Grummon, Anna H., C124
Grunberg, Neil, A130
Grunberg, Victoria A., B051
Gu, Ja Kook, D169
Guan, Weihua, D123
Guanci, Mary, C085
Guarnaccia, Charles A., N007
Gudenkauf, Lisa, B025
Guillaume, Sébastien, N027
Guillen, Rosemary, B048
Gulliford, Martin, A104
Gupta, Samir, B059
Gurung, Sitaji, C066
Gwadz, Marya, D030
Gyuresik, Nancy C., D154

H

Häkkinen, Arja, D118
Hagerman, Charlotte, D040
Haggstrom, David A., C023
Hagiwara, Nao, D074
Hagle, Holly, A033
Hales, Sarah, C112
Hall, Daniel L., C046, C047, D002
Hall, Eric, B137
Hall, Katherine S., B139
Hall, Marla B., D013
Halliday, Tanya, C148
Halpern, Allan, C032
Hamel, Lauren M., B002
Hamilton, Jada G., A019a, D012
Hamilton, Toby, D140
Hamlett-Berry, Kim, D183
Hammonds, Tracy L., C138
Han, Jaec, A093
Han, Paul, N024
Handorf, Elizabeth, A011
Haneuse, Sebastien, A084
Hansen, Nathan, B057
Harden, Samantha M., B129, D043
Hardin, Abigail, A066
Hardin, Heather, D026
Hardin, Robin, B043
Harman, Stephanie, D044

2016 Annual Meeting Supplement

Harmon, Brook, C117, N018
Haroldsen, Candace, A106
Harper, Kryseana J., C052, D059
Harrell, Jules P., A067, D022
Harrell, Sheila, N026
Harris, Brandonn S., A041
Harris, Kari J., C163, N029
Harris, Melissa N., A069, B164, D137
Harris, Priscilla, D031
Harris, Robin, C008
Hartley, Tara A., B034, D169
Hartung, Emily, B113
Harvey, Idethia Shevon., D104
Harvey, William F., B130
Hasan, Mehedi, A037
Haskell, Sally, A078
Hasnie, Afiah, B127
Hasselle, Amanda, B043
Hassink, Sandra G., C130
Haughton, Christina F., B088
Haughton, Jessica, B122
Hausmann, Leslie R.M., C054
Haviland, Amelia M., D063
Hay, Jennifer, A019a, C032, D012, D037, D168
Hayek, Samah, B182
Hayman, Laura L., B141, C173
Haynie, Denise L., B078, B115, D079
He, Amy Linnea W., B166
He, Meizi, B080
Heard, Amy, B042, B073
Hearn, Lauren, B062, C005
Hebert, James, N018
Hecht, Frederick, C099
Heckler, Charles, A003, A018, C001
Heckman, Bernadette, B057
Heckman, Carolyn, A011
Heckman, Timothy, B057
Hedeker, Donald, A040, C155
Heidrick, Charles, D146, D149
Heisler, Michele, B131
Helgeson, Vicki S., C051, C054
Helmer, Drew, N017
Heminger, Christina L., D178
Hemingway, Bree, C139
Henclewood, Dwayne A., B036
Hendrick, Chelsea A., D137
Hennessy, Erin, A064, D028, D082, D087
Heptulla, Rubina M., C037
Heron, Kristin E., C093
Herren, Olga, A060
Hertzberg, Jeffrey, D183
Hesse, Bradford W., A009, B004, B104, B112, C009
Heurtin, Paige, N009
Heymans, Martijn, D118
Hickman, Theodore, C003, C014
Hickner, Robert, A062
Higinio, Marissa, B149
Hill, Danielle, N006
Hill, Erin, B009
Hill, Jennie, A026, A093, B081
Hill, Whitney, C096

Hillman, Angela, B135
Hilton, Joan F., D044
Hingle, Melanie, D176
Hinman, Nova G., C119, N013
Hipp, J. Aaron, A114
Hirschey, Rachel, D151
Hirsh, Adam, A007
Hirshberg, Eliotte, D039
Hitsman, Brian, C156
Ho, Rainbow T.H., A039, B100, C081, D091
Hobbs, Kim, B020
Hobkirk, Andr  a L., C069
Hochheimer, Camille, A111, D162
Hodgin, Katie, D146, N019
Hodgson, Sally, B022
Hoek, Janet, C162
Hoffman, Debra, N013
Hoffman, Elana, B061
Hoffman, Richard, D040
Hoffman, Sara A., C111
Holla, Jasmijn, D118
Holleman, Robert G., D068
Holloway, Breanna, C134
Holloway, Dustin, D172, D175
Homish, D. Lynn, C084
Homish, Gregory G., C084
Hoover, Adam, A079, D077
Hoover, Todd, C168
Hopkins, Christina M., D119
Hopkins, Ramona O., D039
Home, Rob, D165
Hosamani, Poonam, D044
Hosomi, Yuka, A119
Hossain, Md Jobayer., A004
Hottinger, Kate, D093
Hou, Tao, D084
Hou, Xiaolu, A026
Houchins, Sean C., C043
Houston, Ashley J., D045, D047
Houston, Thomas, A045, D174
Hovell, Melbourne F., D145
Howard, Krista, D112
Howard Sharp, Katianna M., C024
Howell, Kathryn H., B043
Hoyt, Michael A., C022
Hsia, Daniel S., C030
Hsu, Ya-wen, A122
Hu, Lu, A071, C122, D188, D189
Hua, Andrew, A085, B118, C038
Huang, Jiun-Hau, B152, B155
Huang, Qian, A024, C035
Huang, Tse-Yang, D067
Huberty, Jennifer, B015, B143
Huff, Rachael, B075
Huffman, Jeff, B071
Hughes, Joel W., C138
Hughes, Maria, D068
Hughes, S.O., A082, C108
Huh, Jimi, A040, B089
Hung, Man, B103, C077, C136, D076
Hungenberg, Elaine, B101
Hunter, Stephen G., B114

Hurley, Thomas, N018
Hutcheson, Katherine A., B018
Hutto, Brent, A079
Huynh, Eric, D044
Hyland, Kelly A., D186

I

Iacovino, Juliette M., D105
Iannotti, Ronald, B115
Idalski Carcone, April, A037
Imes, Christopher C., A071, C122
Ingram, Dominic, B074
Interrante, Mary Kate, B174
Iqbal, Sheeraz, N028
Irons, Brian, A032
Irvin, Veronica L., B049, D092
Irwin, Brandon C., A090
Isaac, Shiney, A098a
Islam, Nadia, C109
Ismail-Khan, Roohi, C019
Ivers, Hans, A008
Iwelunmor, Juliet, B074, D035
Iyer, Vidya, B141

J

Jabson, Jennifer, A053, B026
Jackson, Amy, C164
Jackson, Devlon, A009
Jackson, Joshua, D105
Jackson, Kristina M., A125
Jackson Williams, Dahra, N005
Jacobo, Michelle, C085
Jacobsen, Paul, B003, B012, C019, D186
Jacobson, Lisette, B149
Jagannathan, Ram, B036, D095
Jain, Praduman, C091
James, Caryl, B161
James, Peter, A114
Janelins, Michelle, A018
Jang, Myoungcock, A050
Janicke, David, C127
Janke, E. Amy, A051, D119
Janney, Carol A., B064, D068
Jardin, Charles, B150
Jarrell, Steven, C053
Javier, Sarah, C068
Jean-Louis, Girardin, A118, B036, B158, B166, C070
Jeff  , Donna B., A001, B017
Jeffery, Diana D., B068
Jenkins, Carolyn, C142
Jeon, Sangchoon, A050
Ji, Xiao-Wen, B159
Jiang, Yun, D017
Jibaja-Weiss, Maria L., C057
Jiles, Kristina A., A093
Jim, Heather, B003, B012, D186
Jo  o Valente-dos-Santos, Jo  o, N004
Johanson, Katherine A., D048
John, Natalie S., N009

Poster Author Index

2016 Annual Meeting Supplement

Johns, Shelley, B010
Johnson, Adrienne L., D062, D179
Johnson, Amanda, C155
Johnson, Andrea, A010
Johnson, Blair T., C063
Johnson, Fred, A100
Johnson, Paige B., A041
Johnson, Sallie Beth, A093
Johnson, Steven, A089, B138
Johnson, Thienne, D176
Johnson, Trikeria, B004
Johnson, William D., B164
Johnston, James, B102
Jojich-White, Una, B072, D180
Jonas, Adam B., D094
Jonassaint, Charles, C137
Jones, Barbara, C139
Jones, Deborah, B053, B056
Jones, Deborah J.J., C124
Jones, Elizabeth A., A051
Jones, Emily, B141
Jones, Heather, B170
Jones, LaRita C., D064
Jones, Laura K., A038
Jones, Resa M., B014, D162
Joseph, Rodney, A098a, C089
Joshi, Tanisha, A019
Jowers, Esbelle M., D142
Juarascio, Adrienne, B082
Jung, Mary Y., A015
Junghans-Rutelonis, Ashley, N003
Juraskova, Ilona, B020
Juszczyk, Dorota, A104
Jutagir, Devika R., B025

K

Kaczynski, Andrew, B173
Kaiser, Tyler S., C026
Kalarchian, Melissa A., D089
Kalichman, Moira, C065
Kalichman, Seth, C065
Kalksma, Paula, C177
Kaltz, Emily, A012
Kamarck, Thomas, C010
Kamen, Charles, A003, A018, C001
Kane, John, C072
Kane, Naomi S., C037
Kang, Hyunjin, D173
Kaphingst, Kimberly A., D045, D047
Karlamangla, Arun S., C175
Karlson, Cynthia, B050, C024
Karvinen, Kristina, B005
Kashani, Mariam, B038
Katie, Fabius, D016
Katz, Mira L., D094
Kaufman, Caroline C., B074
Kaufman, Keith A., B174
Kaushal, Navin, B119
Kay, Judy, B020
Kebede, Esayas B, A075
Kebodeaux, Carey, D045, D047

Keefe, Brian, C141
Keegan, Rachel, B127
Keeney, Jacey, A083, B116
Kelleher, Sarah A., A081, C148
Keller, Colleen, C089, D139
Kelley, Dannielle, D171
Kelly, Caitlin N., B065, C051
Kelly, Kimberly M., B046, B047, D029
Kelly, Nichole, B160
Kelsey, Johnson, B076
Kendall, Bradley J., D131
Kennedy, Victoria, D015
Kepler, Mariah, B111
Kern, Daniel M., B116
Kerns, Robert D., D116
Kerr, Jacqueline, A114, B120
Kerrigan, Stephanie, N020
Khaled, Mona, B148
Khan, Adeena, D044
Kiefner-Burmeister, Allison, C119
Kim, Hee-Sung, C036
Kim, Kye, B030
Kim, Sarah, C099
Kim, Youngmee, B021, C011, N001
King, Brian A., D182
King, Paul R., A102, C074
King-Shier, Kathryn, D156
Kinnard, Deborah, B173
Kinner, Ellen M., C020
Kinnett-Hopkins, Dominique Lynn, A086
Kinsaul, Jessica, N009
Kirouac, Megan, N032
Kishida, Moé, A116
Kitzman-Ulrich, Heather, B096
Kiviniemi, Marc T., D037, D168
Kiyoshi-Teo, Hiroko, B052
Klagholz, Stephen, B039
Kleckner, Ian, A003, A018, C001
Knifsend, Casey A., N014
Knoblauch, Daniel, C161
Knable, Naomi, A004
Knowlton, Amy, B183
Koball, Afton M., A075
Kobayashi, Lindsay, D036, D155
Koch, Susanne, A080
Kohlmann, Wendy, A006, A017
Kolivas, Korine N., B081
Kolva, Elissa, A019
Kong, Lan, D145
Konishi, Minami, A129, A131
Koprowski, Carol, B089
Koretz, Brandon, C175
Korytkowski, Mary T., C054
Kosambiya, Jayendrakumar K., C062
Kotov, Alexander, A037
Kotwal, Mool Raj, C176
Kowitt, Sarah D., D057
Kraemer, Kevin L., A125
Kramer, Arthur F., A085, B118, C038, D144
Kramer, M. Kaye, B093
Kramer, Nicole, D069
Kraschewski, Jennifer L., D145

Krause, Madeline, C019
Kraut, Robert E., C018, D014
Kreuter, Matthew, A001
Krist, Alexander, A111, D162
Krivenko, Anna, C075
Kroenke, Kurt, B010
Krumlauf, Mike, A123
Ku, John K.S., C081
Kuhns, Lisa, B066
Kumar, Ambuj, C062
Kuo, Charlene C., A002, C071
Kuo, Pei-Chun, B152, B155
Kurian, Kevin R., B170
Kvale, Elizabeth, A098a
Kwitowski, Melissa A., A057
Kyvelidou, Anastasia, B132

L

Labriole, Michaela, B079
Lacukner, Carolyn, B175
LaGrotte, Caitlin, A092, A128, B127, D016, D147
Lai, Agnes, A031
Laikin, Andrea, B050, C024
Lail Kashiri, Paulette, A111, D162
Laitner, Melissa H., A049
Lam, Tai-hing, A031
Lan, Chiao-Wen, B058
Landoll, Ryan R., A109
Landrine, Hope, A062, D013
Lane, Hannah, D031
Lang, Brent A., N025
Lanoye, Autumn, D070
Lapinska, Michalina, C036
Larkey, Linda, B015, B143, C016
Larkin, Kevin, C152
LaRose, Jessica Gokec., A057
Larrivee, Sandra, D137
LaTulip, Stefan E., N016
Lavoie, Kim L., B028, B072, D180
Lawson, Catalina, B020
Lawson, Jessica L., A120, B090, B162
Lawton, Brian, D063
Le, Yen, D018
Leachman, Sancy, A006, A017
Learmonth, Yvonne, D152
Lease, Suzanne, N026
Lechner, Suzanne, B025, C005, C019
Lee, Chia-Kuei, A036
Lee, Chi-Ting, A020
Lee, Daniel, C036
Lee, Hyoungh S., C163
Lee, Jennifer W., B097
Lee, Jeong Kyu, D173
Lee, Jung Min, B132, D134
Lee, Jungup, N031
Lee, Morgan, B012, C019
Lee, Rebecca E., C016
Lee, Sunmin, A015
Leeder, Isabel, B079
Leget, Carlo JW., B169
Leiferman, Jenn, B143

2016 Annual Meeting Supplement

Leigh, Daniel, D040
Leimpeter, Amethyst, D040
Leite, Neiva, N004
Lemon, Stephenie, B088
Lemos, Mariantonia, B035
Lems, Willem, D118
Leniek, Karyn, C045
Lenne, Richie, N012
Lennes, Inga T., D002
Leonard, Noelle R., D030
Lerner, Hannah M., C106
LeRoy, Angie, C076
Lester, Richard T., B102
Leuthold, Teryn, B059
Levenson, Jessica, A121
Leventhal, Adam, B089
Leventhal, Elaine, D049
Leventhal, Howard, D049
Levin, Jennifer B., C075
Levine, John, C018
Levine, Michele D., B147
Levit, Alexander, B176
Levy, Susan S., C090, D125
Lewin, Jan S., B018
Lewis, Beth, D123
Lewis, Megan A., B093, D042
Lewis, Robin J., C093
Lewis, Zakkoyya, A076, C143, D126
Li, Ang, C081
Li, Jacinda, A116
Li, Kaigang, B115
Li, Liang, B018, B092
Li, Ming, D067
Li, Yin, C045
Li, Yisheng, B131
Liang, Ya-Lun, A020
Liao, Kelly Yu-Hsin, C025
Liao, Li-Ling, C034
Lichtenstein, Alice, B141
Lilienthal, Kaitlin, A102, A108, C074
Lim, Clarise, A094, D135
Lim, Shi Ying, B105
Lim, Stephanie, D061
Lim, Unhee, C117
Lin, Chung-Ying, A020
Lin, Linda, C159
Linde, Jennifer A., C118
Lingler, Jennifer, D188, D189
Lipkus, Isaac, D151
Lipscomb, Michael, A060
Lipsky, Leah, B078, B115, D053, D079
Lipton, Melanie, D093
Littlewood, Rae, C067, N008
Littooi, Elsbeth, B169
Liu, Aiyi, D053
Liu, Chieh-Hsing, C034
Liu, Danping, B078, D079
Liu, Haiyan, D009
Liu, Qingyun, B079
Livitz, Irina E., D098, D099
Llabre, Maria M., B079
Lloyd, Gillian, B109, B133

Lobo, Tania, C071
Locke, Sean, B124, B128
Loeb, Stacy, C014
Loescher, Lois, C008
Logan, Deirdre, D163
Long, Molly M., D52
Longacre, Margaret L., D015
Loscalzo, Emily, B176
Low, Carissa A., C018
Lowe, Michael, A074, C120
Lu, Amy S., A091
Lu, Ji, D085
Lu, Qian, A117, C013, C025
Luberto, Christina M., C046, C047
Ludolph, Ramona, D158
Luna, Veronica, B093
Luongo, Peter, A033
Lutes, Lesley D., B085
Lutgendorf, Susan, C020
Luyckx, Koen, C082
Lydecker, Janet A., A059, C174
Lyden, Hannah, B145, B148
Lyerly, Jordan, B083, B096
Lyna, Pauline, A100, C160
Lynce, Filipa, C002
Lynch, Chance, C045
Lynch, Molly, D164
Lynch, Sarah, B107, C167, N022
Lyons, Elizabeth, A076, C143, D126
Lytle, Leslie, A048

M

M. Sabiston, Catherine, C004
Ma, Claudia C., D169
Ma, Jun, B093
Ma, Qianheng, A071, C122
Ma, Yunsheng, C097
Machado-Rodrigues, Aristides, N002, N004
Mackenzie, Michael J., B125, B126
Maclin- Akinyemi, Courtney, B074
MacPherson, Laura, B061
Maddocks, Kami, C178
Maes, Pattie, C150
Maestro, Kieran, D110
Magaña López, Miriam, A123
Magallanes, Melissa, C080
Magana, Victor, C135
Magill, Molly, N006
Magnan, Renee E., D138
Mahal, Daljeet, B102
Makarov, Danil, C014
Makkapati, Shreya, D054
Maksut, Jessica L., C064
Malchano, Donna, D188
Malik, Preeti, C137
Malkani, Samir, D054
Malone, Christopher, D121
Malupande, Emeria, B053
Manasse, Stephanie, B082
Mancino, Juliet M., A071, B095, C122
Manganello, Jennifer, B087

Poster Author Index

Mann, Devin, B098
Mann, John D., C045
Mann, Traci, N012
Manne, Sharon, A011, B024
Mannes, Zachary, B062, C005
Manser, Kelly A., A033, D163
Mansyur, Carol, C057
Maranda, Louise, D054
Marceau, Lisa, C050
Marciniak, Macary W., C031
Marcus, Bess, A098a
Margenthaler, Julie, A001
Margolis, Katherine A., D182
Marin-Chollom, Amanda M., B157
Marinik, Elaina, A081, C148
Marker, Arwen M., C030
Markman, Elisabeth S., D147
Marlin, Benjamin, D174
Marques, Isabela, C080
Marquez, Carloz, B162
Marquez, David X., C080
Marsh, Wallis, C010
Marshall, Sandra, D159
Marszalek, Jolanta, B130
Martin, Chloe M., D022
Martin, Corby K., C030, N009
Martin, Justin T., D061
Martin, Laura S., A034, C163
Martinez, Elena A., B080
Martinez, Sandra, C071
Martinez Tyson, Dinorah, C019
Martins, Maximilian, D133
Mascarenhas, Luis Paulo gomes., N004
Mason, Ashley E., C099
Mason, Tyler B., C093
Masse, L.C., A082, C108
Massie, Kim, A005
Matheson, Deborah H., B114
Matthews, Jeni, B143
Matthews-Ewald, Molly, B164
Matthieu, Monica M., C073
Mattos, Meghan K., A071, C121, C122
Maurer, Serena, C039
Maust, London, N009
May, April, A107, C134
May, Christine, A016
Mayberry, Lindsay S., C052, D059
Mayer, Kenneth H., C061
Mayne, Susan, D010
Mayo, Matthew, A073
Mays, Darren, A010
Mazzeo, Suzanne, A057
Mazzer, Caroline, C011
McAllister, Amy, B084
McAndrew, Lisa, D110, N017
McAuley, Edward, A052, A085, B006, B070, B109, B118, B125, B126, B133, C095, D144
McBride, Timothy, D045
McCabe, Pamela J., B040
McCaffrey, Jennifer, C116
McCall, Janice, B027
McClain, Darya, B143

Poster Author Index

McClain, James J., A096
McCoy, Shannon K., B075
McCuen-Wurst, Courtney, D041
McDonnell, Karen K., D046
McDonough, Stephanie R., C049
McFadden, Hannah, B101
McGarrrity, Larissa A., B153
McGeechan, Kevin, B020
McGillicuddy, John, C145
McGinley, Jared J., B029, B030
McGinty, Heather L., A014
McGovern, Jessica E., N009
McGregor, Bonnie, C020
McKay, James R., A127
McKee, M. Diane, A120, B162
McKinney, Nicole, D065
McKinnon, Symone, C134
McLeish, Alison C., D062, D179
McLeod, Dorothy L., B042, B073
McMahon, Casey, B128
McMahon, Cori E., A128, B055, B063
McMahon, Siobhan, D123
McMurry, Linda, A032
McNeill, Lorna, B131
McQueen, Amy, C006
McRae, Annie-Laurie, C015
Mead, Caroline, C072
Meade, Cathy D., C019
Meade, Christina S., C069
Meek, Karen, B149
Meenan, Richard T., A005
Meers, Jessica, C143
Mehta, Alap, C062
Meisel, Susanne F., D165
Melnik, Marianne, A018
Melton, Laura, A019
Mendel, Jennifer, D171
Mendelowitz, Elana, D072
Mendley, Susan, D032
Mendoza, Raymundo G., B080
Meneses, Karen, A098a
Meraya, Abdulkarim, B046, B047
Merluzzi, Thomas, D009
Mermelstein, Robin, C155
Merrill, David, C131
Messner, Marcus, C166
Milan, Stephanie, N010
Millar, Brett M., C066
Miller, Aaron S., B022
Miller, Annie, B020
Miller, Daniel P., A084
Miller, Melissa F., D015
Miller, Suzanne M., D041
Miller, Tamara, C055
Millstein, Rachel A., B071
Mimiaga, Matthew, B066
Minahan, Jacquelyn, D113
Mindlis, Irina, C140
Minges, Karl E., C087
Mink, Pamela, B014
Minnick, Alyssa, D167
Minski, Samantha A., A061
Miranda, Patricia Y., B142
Miro, Danielle, N026
Misra, Ranjita, B076, D056
Mitchell, Hannah-Rose, B021
Mitchell, Jonathan, A114, C169
Mitchell, Tarrah, B120
Mitchell, Valerie, B140
Mitzel, Luke D., B054
Mnatsakanova, Anna, B034
Mogle, Jacqueline A., B135
Mohamed, Nihal, D001
Moin, Tannaz, D068
Molloy, Brianne K., C017
Monahan, Patrick, C021
Monash, Bradley, D044
Mongalo, Millie, A119
Mooney, Ann J., B064
Mooney, Ryan, A017
Moons, Philip, C082
Moore, David A., D016
Moore, Melanie, C068
Moore, Shirley, D026, N015
Moore Simas, Tiffany, B141
Moracco, Kathryn E., D170
Morales, Dawn A., A099
Moran, Alyssa, D084
Moran, Kevin, A114, B117
Moreno, Jose L., C163, N029
Morey, Miriam C., B139
Morgan, Jennifer, C154, D171
Morgan, John, D034
Mori, Amber, C121
Mori, Ashley, C128, C129
Morrell, Holly E.R., D027
Morrow, Gary, A003
Morse, Chris R., B154
Moser, Richard P., B004, B104, B112
Mosher, Catherine E., A007, C023
Moskowitz, Judith T., C099
Mota, Jorge, N002
Motl, Robert W., A052, A086, B070, D127, D152
Motohara, Satoko, C073
Moussa, Renee, C008
Mrug, Sylvie, D064
Muñoz, Juliana, A002, C071
Mueller, Martina, C145
Muench, Frederick, C091
Mui, Moses, A031
Muilenburg, Jessica L., B175
Mullen, Sean P., A085, B118, C038, C040
Mummery, Kerry, B013, D129
Muntasir, Mohammed, N028
Murdock, Kyle W., C076
Murfhey, Christina, B146, C151
Murphy, Angela, N018
Murphy, Sarah, A010
Murray, Joan, N001
Murray, Katelyn, B050
Musher-Eizenman, Dara, C102, C119
Mustian, Karen, A003, A018, C001
Muth, Eric R., A079, D077
Mwendwa, Denece, A060, A067

2016 Annual Meeting Supplement

Myers, Valerie H., A069, B164

N
Naar, Sylvie, A037
Nagy, Paul, A100
Naik, Eknath, C062
Nair, Uma, D172, D175
Nam, Soohyun, A050
Nan, Joshua K.M., B168
Nanda, Sanjeev, A075
Nansel, Tonja, B078, D053, D079
Napolitano, Melissa, C167
Nash, Susan, C057
Nebeling, Linda, A064, D028, D082, D087
Neira, Luz Myriam, B080
Nelson, Ashley M., B003, B012, D186
Nelson, Matthew, D063
Neugut, Alfred I., B157
Newlan, Sami A., B087
Newsome, Valerie, A118, B158, B161, B166, C070
Newton, Robert L., B164, D137
Nezami, Brooke T., A048, C106
Nguyen, Anh, D182
Nguyen, MinhPhuong, D050
Nguyen, Nga, B131
Nicassio, Perry M., D097
Nicholson, Andrea, D025
Nielsen, Matthew, A109
Nigg, Claudio, A129, A131, C133, D083
Ninot, Gregory, N027
Nishida, Kevin, A130
Nitzke, Susan, C110
Noar, Seth, D171
Nolan, Richard, B076
Nollen, Nicole L., D181
Norman, Gregory, A110
Norris, PhD, Deborah, D071
Norwitz, Errol, B141
Nosrat, Sanaz, A124, C058
Nowkowsky, Sara, C143, D126

O
O'Cleirigh, Conall, C061
Oakes, J Michael, D123
O'Brian, Olivia, B003, B012, D186
O'Brien, William H., N025
Ockene, Judith K., B097
O'Connor, Sydney, B089
O'Connor, T.M., A082, C108
Odom, Butch, N026
Odoms-young, Angela, C105
Odoms-Young, Angela, C116
O'Donoghue, Amie, D033, D159
Offit, Kenneth, D012
Ogedegbe, Gbenga, B158, B166
Ogle, Andrew, D034, D146
Oh, April, A009, A064, D028, D082, D087
Ohri-Vachaspati, Punam, D078
Oken, Tanya, B162

2016 Annual Meeting Supplement

Poster Author Index

Olayinka, Oluwatomisin, N015
Olendzki, Barbara, C097
Olendzki, Effie, B097
Oleski, Jessica, C097
Oltmanns, Thomas F., D105
Ona Ayala, Kimberly, D160
Onyike, Mercy, C002
Oppamayun, Yaowares, D107
O'Reilly, Gillian, A027
Organ, Jordan A., B050
Oris, Leen, C082
Ormseth, Sarah, D097
Ornelas, India J., C039
Orom, Heather, D037, D168
O'Rourke, Daniel, A022
Ortega-Smith, Elizabeth, C177, D136
Ortega, Enrique, B048
Orton, Kristann, A110
Osborn, Chandra Y., C052, D059
Oshin, Linda, N010
Oster, Robert, D051, D058
Otte, Julie, B059

P

Pérez, Maria, A001, B017
Pacheco, Henry, B136
Pacheco-Figueroa, Adriana, B136
Padden, Jamie L., A065
Padilla, Heather M., A080
Padro, Meagan, C107
Pagoto, Sherry, A016, A083, B088, C097, D086
Pai, Howard H., B022
Paine, Nicola J., B028
Palac, Daniel, A085, B118, C038
Palmberg, Allison A., A057
Palmer, Brooke E., A066, D066, D167
Pan, Meixia, B080
Pan, Wei, D151
Panigrahi, Eva, A047, N016
Papanek, Paula E., B099
Paquin, Ryan S., D042
Parascandola, Mark, C104, C153
Park, Chang, D055
Park, Crystal L., D088
Park, Elyse R., C046, C047, D002
Parr, Elizabeth, A080
Parsons, Jeffrey T., C060, C066
Pasternak, Eliana, D072
Patel, Puja, C069
Patel, Sachin, C042, C145
Patel, Zarine S., B162
Patten, Christi, C163
Patterson, Stephen M., B165
Paul S, Mueller, A075
Paxton, Maegan, C086
Peay, Holly L., D042
Pedersen, Maja, B015
Pekmezi, Dorothy, A098a
Pellegrini, Christine, B117
Pelletier, Roxanne, B028
Penedo, Frank J., A014, C020

Penner, Louis, B002
Pentz, Mary Ann, A023
Peoples, Anita, A003
Peppone, Luke, A018, C001
Pereira, Deidre, C012
Perez, Giselle K., C047
Perez, Kimberly, C026
Perez, Sylvia, B079
Perez Ramirez, Emely J., C007
Perri, Michael G., A049, A061
Perskaudas, Rokas, B174, C043
Persoskie, Alexander, D182
Persuittie, Gioia, C097
Peterson, Ninoska D., A047, N016
Peterson, Susan K., B092
Petrie, Keith J., D011
Petrangolo, Jennifer, A128, B067, D147
Peyser, Deena, B178
Pfammatter, Angela, B033
Phibbs, Ciaran, A078
Philip, Errol J., D009
Phillips, Amanda, N007
Phillips, Pamela E., C045
Phillips, Siobhan M., B006, B109, B133
Phimphasone, Phoutdavone, A066, D066
Phipatanakul, Wanda, C173
Picard, Rosalind, C150
Pickworth, Courtney, B160
Picot, Marie-Christine, N027
Piers, Amani D., C120
Pina, David, C135
Pinard, Courtney, D082, D087
Pinkston, Megan, B151
Pinnamaraju, Sharishma, D161
Pinto, Bernardine, B023
Pirl, William, D002
Place, Skyler, C072
Poché, Barton J., D065
Pohlig, Ryan T., A088, B125, D148
Polacsek, Michele, D084
Politi, Mary C., D045, D047, N024
Pollak, Kathryn, A100, C160
Pomerleau, Julie, B171
Porter, Gwenndolyn C., A052, D144
Porter, Kathleen, D031
Portier, Kenneth, C018, D014
Posluszny, Donna, D187
Powell, Leigh A., N014
Powell-Wiley, Tiffany, B140
Presseau, Justin, D124
Price, Lori Lyn, B130
Prikken, Sofie, C082
Primack, Brian A., A121, A125, B027
Pritchett, Marshall C., D051
Privitera, Michael, D062, D179
Probe, Deborah, C086
Prom-Wormley, Elizabeth, C166
Pruette, Cozumel, D032
Ptomey, Lauren T., A073
Puccio, Ava M., C172
Pugatch, Jillian, D177
Punt, Stephanie, A022

Puputti, Marissa, B098
Purim-Shem-Tov, Yanina A., B108
Putnam, Cynthia, B116
Pyatak, Elizabeth, D101

Q

Quaife, Samantha, D021
Quantin, Xavier, N027
Quinlan, Alison, B119
Quinn, Emily, B098
Quinn, Laurie, D055
Quinn, Noel, B110
Quintiliani, Lisa M., A055, B098, D086

R

Radhakrishnan, Kavita, B105
Radin, Rachel M., B160
Rains, Stephen, C008
Rajpal, Neha, C071
Ramalingam, NithyaPriya, B129, D043
Ramirez, Amelie, A058
Ramirez, Jeffrey, A117
Ramos, Stephen, D112
Ramsey, Meagan, D050
Ranby, Krista W., B107, N022
Rand, Kevin L., A007, B016
Ranucci, Alexandra, A123
Rapaport, Robert, C036
Rassart, Jessica, C082
Rath, Jessica M., C155
Rathbun, Stephen, B095
Rathke, Michelle, D083
Ravenell, Joseph, C003, C014
Rawl, Susan M., C021, C023
Raymond, Rick, C043
Reading, Stephanie R., C175
Ready, Justin T., D063
Reardon, Caitlin, A077
Recklitis, Christopher J., B011
Redden, Joe, N012
Redding, Colleen A., A041
Reddy, Pavan, A018
Regelmann, Molly, C036
Reikowsky, Ryan, D175
Reisner, Sari, B066
Reiter, Paul, C015
Reitzel, Lorraine R., B131
Remington, Gary, D075
Ren, Dianxu, C172
Rendina, H. Jonathon, C060
Renn, Brenna N., C053, D048
Rennke, Stephanie, D044
Rescott, Marissa, C101
Resnicow, Ken A., B083, B131
Ress, Rachel, A063
Revenson, Tracey A., B157
Reynolds, Kim, A005
Rheaume, Emily, A055
Rhodes, Ryan E., A094, B119, B121, D135
Ribeiro, Luis, N002
Ribisl, Kurt, D171
Rice, Brittany, B170

Poster Author Index

Richardson, Caroline R., A077, B064, D068
Richie, Brianna, A026
Richman, Joshua, D128
Richmond, Tracy K., A065
Richter, Kimber P., C163, N029
Riddle, Melissa, A099
Riekert, Kristin, D032
Rigby, Andrea, A068
Riggs, Nathaniel, A023
Riklin, Eric, C085
Riley, Kristen, D088
Riley, William T., C144
Rimm, Eric, D084
Riskin, Barry J., D152
Ritterband, Lee, A011, B020
Ritz, Beate R., C175
Rivas, Homero, D106
Rivera, Luis Omar, C168
Robbins, Rebecca, A118, B158, B161, B166, C070
Roberson, Crystal L., B131
Robert, West, C158
Roberts, Sarah, A052, B125, B126
Robinson, Allysha, B183
Robinson, Paul, D161
Robson, Mark E., D012
Rocha, Judith, C080
Rodgin, Sandra, B044
Rodriguez, Emily, C141
Rodriguez, Violeta, B053, B056
Rodriguez, Vivian M., A019a, C032, D012
Rodriguez, Yvelise, C019
Roedklein, Kathryn A., C010
Rohr, Danielle, C096
Rosales Chavez, Jose B., C016
Rosand, Jonathan, C085
Roscoe, Joseph A., A003, C001
Rosen, Daniel, B027
Rosen, Rochelle K., C026, C146
Rosenbach, Sarah B., A127
Rosenbaum, Diane L., C120
Rosenblatt, Heather, D034
Rosenzweig, Margaret Q., D017
Ross, Alyson, B039
Rossi, James J., N013
Rossi, Joseph S., N006
Roter, Debra, D032
Rothman, Alexander, D123
Rovniak, Liza S., D145
Roy Choudhury, Kingshuk, B007
Ruben, Mollie A., D111
Rubin, Channah, C072
Ruether, Dean, D156
Ruggero, Camilo, N024
Ruggieri, Madelyn, A051, D119
Ruggiero, Kenneth, C145
Ruhf, Carolyn Heitzmann, D009
Ruland, Cornelia, D108
Rundle, Andrew G., B157
Rupert, Douglas J., D033
Rush, Christina, A002, C071
Rustveld, Luis, C057
Ryan, Daron, C039

Ryan, Donna, A069, B164
Ryan, Polly A., B099
Ryba, Marlena M., A029
Rybarczyk, Bruce, D070

S

Saab, Patrice, B079
Saavedra, Dana, C019
Sabo, Roy, A111, D162
Sachs, Michael L., A092
Sadasivam, Rajani, D174
Sadler, Lois, A050
Saechao, Fay S., A078
Saelens, Brian E., B120
Safford, Monika M., D051, D058, D128
Safren, Steven A., C061, C085
Saint Onge, Jarron M., D181
Sajatovic, Martha, C075
Sakai, Debbie S., D044
Sakakibara, Rae, C073
Saksvig, Brit, D153
Sala, Margarita, C092
Salimian, Parissa K., A024, C035
Sallis, James F., B120, D145
Salmoirago-Blotcher, Elena, B106
Salner, Andrew, D023
Saltz, Robert, B177
Samore, Matthew, A106
Sanchez, Diana, D118
Sanders, Amy, D177
Sanderson Cox, Lisa, D181
Sankaran, Padma, A126
SantaBarbara, Nicholas J., A124, C058
Santoro, Maya, C134
Sarkisian, Khachatur, B032
Sarmiento, Olga, A087
Saslow, Laura, C099
Satterfield, Jason, D044
Saules, Karen, C132, D073
Saulson, Raelle, C142
Saunders, Ruth P., A088, B173
Savage, Cary, C123
Savard, Josée, A008
Savard, Marie-Hélène, A008
Savla, Jyoti, C148
Sawdey, Michael D., C166
Saxbe, Darby, B145, B148
Saxon, LaDonna, A072
Sbrocco, Tracy, A063
Schütz, Sonja G., A118, B158, C070
Schaffer, Connie, D134
Schaumberg, Katherine, C120
Schember, Tatiana O., C127
Schembre, Susan M., B092
Scheuermann, Taneisha S., D181
Schiffer, Linda, C116
Schipperijn, Jasper, B120
Schlidt, Andrea, B099
Schlissel, Anna C., A025
Schmidt, Ann Marie, D095
Schneider, Kristin L., A083, B116

2016 Annual Meeting Supplement

Schneider, Lauren M., D048
Schnoll, Robert A., C156
Schoenberg, Nancy, D094
Schoffman, Danielle E., B173
Schroyer, Robin, C038, C040
Schubert, Matt, C123
Schulz, Peter J., D158
Schumacher, Leah, A098, C120
Schuster, Mark, D064
Schvey, Natasha, A063
Sciamanna, Christopher N., D145
Scott, Emily, A006
Scott, Michael D., D166
Scott, Tamara, A066, D066
Scott-Sheldon, Lori A.J., B058, B151, B153, C026, C063
Seeman, Teresa E., C175
Segar, Michelle, B064
Seidel, Richard, A101, D060
Seifert, Charles, A032
Seitz-Brown, Cj, B061
Seixas, Azizi, A118, B036, B158, B161, B166, C070
Seltman, Howard J, C054
Semelsberger, Samantha, B008
Seng, Elizabeth K., A120, B090, B162, D115, D120
Senn, Theresa E., B153
Sepulveda, Martina, A112
Sercy, Erica, D046
Sereika, Susan M., A071, C122, C128, C129, D008, D017, D188, D189
Sessford, James, D154
Sevick, Mary Ann, C103, D095
Sevilimedu, Varadan, B084
Sgro, Jordan, C077
Shaffer, Kelly M., B021, C011, C085
Shah, Nikita, D133
Shah, Parth D., C031
Shakya, Holly, B122
Shalata, Walid, D096
Shamburek, Robert, B039
Sharma, Usha, D102
Sharp, Carla, B150
Sharpe, Patricia A., B173
Shawley, Samantha, B076, D056
Shear, Paula K., D062, D179
Sheldon, Sloane, B162
Shelton, Tanya, D058
Shensa, Ariel, A121
Shepherd, Janet, A012
Shepherd, Melissa, A012
Sheppard, Vanessa B., D018, D020
Sherpa, Dawa, D030
Sherwani, Yusuf, N028
Sherwood, Nancy, B085
Shi, Ling, B141
Shi, Weijia, D007
Shieh, Lisa, D044
Shiffman, Saul, B095
Shinn, Eileen, B018
Shivappa, Nitin, N018

2016 Annual Meeting Supplement

Shomaker, Lauren, B160
Shorey Fennell, Bethany R., D138
Shubbrook, Jay, D52
Shuk, Elyse, A019a, D012
Shuter, Jonathan, D115
Sidani, Jaime E., A121
Siddarth, Prabha, C131
Siddiqua, Asfia, N029
Siddiqui, Sarim, N028
Sideroff, Stephen, D019
Siegel, Sarah, B069
Siembida, Elizabeth J., C064
Sienko, Rachel, C132
Sikkema, Kathleen, B057, D063
Silton, Rebecca L., A115, B042
Sim, Hwa Yeon, A015
Simon, Christine L., B087
Simons-Morton, Bruce, B115
Sims, Dangaia, A097
Singer, Alexandra, B162
Singh, Indira, N021
Sisson, Susan, D140
Skeer, Margie, A025
Skelton, Katalin W., B099
Slaven, James, C021
Slavet, James, A084
Slavit, Wendy I., D182
Slepian, P. Maxwell, D114
Sloan, Jessica H., D072
Slopen, Natalie, C175
Slotkin, Sarah, D110
Smillie, Kirsten, B102
Smith, Christine E., B163
Smith, Kristen, D125
Smith, Lisa L., C016
Smith, Samuel, D036, D165
Smith, Stephanie, C012
Smith, Sunyata, C045
Smith, Tenbroeck, D014
Smith, Teresa M., D082, D087
Smith Carter, Jocelyn S., B116
Snapp, Erin, C132
Snell-Rood, Claire, D094
Snyder, Kailey, B132, D134
So, Kwok-fai, C081
Solodiuk, Jean C., D163
Soltero, Erica, C016
Song, Anna V., C157
Song, Hee-Jung, A050
Song, Huaxin, A032
Song, Kay, N021
Sonneville, Kendrin R., A065
Sosa, Erica, B080
Soto, Sandra, B122
Southwell, Brian, C088
Sox, Luke, C042
Spalding, Bethany, C109
Sparks, Caroline H., N021
Sparks, Jordan, A077
Spears, Claire A., B174, C043
Speck, Barbara, D026
Spence-Almaguer, Emily, C096

Sporn, Nora J., B086
Spring, Bonnie, B033, B117, C111
Springfield, Sparkle, C105
Spruijt-Metz, Donna, A027
Squiers, Linda, D164
St. Sauver, Jennifer, B112
Staggs, Vincent, C163
Stagl, Jamie M., B025, C085
Staiano, Amanda E., C030, C130
Stanton, Annette L., D011
Stanton, Cassandra, C167
Stapleton, Jerod L., B024
Starks, Tyrel, C066
Stasko, Emily C., B055, B063
Steel, Jennifer, C010
Steffen, Ann, A042, A103
Stein, Elizabeth, N032
Stein, Karen, A036
Stein, Kevin, B023
Stein, Lyn, N006
Steinle, Nanette, D068
Stepanov, Irina, C154
Stephens, Mark, A063
Stephenson, Alexandra, A113, C149
Steptoe, Andrew, D036
Sterba, Katherine, D003
Sterling, Robert, B176
Stern, Max R., A127
Stetson, Barbara, C049
Stewart, Jonathan, D056
Stewart, Mary Dunne, C109
Stewart, Sunita, A031
Stine, Alexander, C088
St-Jules, David, C103
St-Jules, David E., D095
Stock, Michelle L., C017
Stolley, Melinda R., C105, C116
Stolwijk, Janneke, B169
Stoney, Catherine, D102
Stoops, Elyssa, B039
Stortz, Saige, N029
Stout, Jacqueline, C143
Stoycos, Sarah, B145, B148
Stoyneva, Iva, D177
Strainge, Lauren, C065
Stran, Kimberly A., N011
Strayer, Scott M., D046
Strong, Carol, A020
Strong, Larkin L., B092, D130
Studts, Jamie L., N024
Stump, Tammy K., A006
Sucala, Madalina, C091
Suhr, Julie, C056
Sullivan, Debra, A073
Sullivan, Helen, D033, D159
Sullivan, Jillian, D136
Sullivan, Kristynn J., C048
Sullivan, Shelby, A043
Sumner, Lekeisha, D097, N001
Sun, Ran, A071, C122
Suokhrie, Lucy, B055, B063
Sur, Bonita, C056

Poster Author Index

Sutton, Courtney E., D048
Sutton, Steven, B003, B012
Swanson, Amelia, D185
Swartz, Maria, A076, C143, D126
Swartz, Michael D., C143
Swendeman, Dallas T., C175
Szabo-Reed, Amanda N., C123

T

Taber, Jennifer M., A006
Tagorda, Michelle, D083
Taleon, Abigail A., C043
Talwar, Divya, D067
Tam, Michelle Yi Jun, A030, B144, D038, D090
Tan, Colin, B060
Tang, Rui, C092
Tanglao, Alfred, A111
Tanofsky-Kraff, Marian, A063, B160
Tapanes, Daniel, D027
Tapera, Tinashe M., B082, C126
Taplin, Stephen H., B112
Tapp, Dianne, D156
Tardiff, Susanne, B114
Tasevska, Natasha, D139
Tate, Deborah F., A048, B001, B085, C106, C125
Tatsuoka, Curtis, C075
Tatum, Kristina L., B024
Taveras, Elsie M., A112
Taylor, Adrian, N027
Taylor, Kathryn, D040
Taylor, Maija B., C102, N013
Taylor, S. Wade, C061
Taylor, Sara, C150
Taylor, Ph.D, Teletia R., D022
Tehan, Tara, C085
Teo, Alan, B069, C073
Tercyak, Kenneth, A010
Terry, Martha, C128, C129
Terry, Paul, B026
Terry, Robert, D140
Thai, Chan, A009
Thomas, Graham, N020
Thomas, J. Graham, C114
Thomas, Jenifer, B111
Thomas, Samantha, B140
Thomas, Tyrone, A127
Thompson, Hayley S., C003
Thompson, Katherine A., B160
Thompson, Nicholas S., A090
Thompson, Suzanne, D160
Thompson, Tess, A001, B017
Thomson, Cynthia A., D172
Thornton, James D., D029
Thralls, Katie J., C090, D125
Thrash, Shayla, C161
Thurston, Idia B., A065, B043, B074
Tiemensma, Jitske, D109
Tometich, Danielle, A007
Tonismae, Tiffany, D043
Toomey, Sara, D064
Torres, Magaly, C042, C145
Tortolero, Susan, D064

Touza, Kaitlin K., B016
 Towe, Sheri L., C069
 Traeger, Lara, C046, C047
 Treiber, Frank, C042, C142, C145
 Trevorrow, Tracy, A119
 Troiano, Richard P., A096
 Trudeau, Kimberlee, A033, D163
 Tsai, Ann, B145, B148
 Tsai, Daniel Fu-Chang, D067
 Tsai, Meng-Tse, A020
 Tsai, Wan-Chi, A122
 Tsang, Monique, A119
 Tsung, Allan, C010
 Tu, Andrew W., A082, C108
 Tuchman, Shamir, D032
 Tucker-Seeley, Reginald, B101
 Tudose, Alina, A088, D136
 Turk, Melanie T., D089
 Turner-McGrievy, Brie, A079, C112, D077
 Turpin, Alexis, B059
 Tussing-Humphreys, Lisa, C105

U

Urizar, Guido, N030
 Ursano, Robert J., C086

V

Vadnais, Marcus K., D061
 Vair, Christina L., A102, C074
 Valenstein, Marcia, B064
 Valenzuela, Carlos, A058
 Vallance, Jeff, A089, B005, B138
 Valle, Carmina G., B001, C106, C125
 Vallone, Donna, C155
 Van Bogart, Karina, C048
 Van Den Eeden, Stephen K., D040
 van der Kop, Mia L., B102
 van der Leeden, Marike, D118
 Van Engen, Meagan, A093
 Van Vleet, Meredith, C054
 Vanable, Peter A., B054, C067, N008
 Vanderploeg, Purvi S., D116
 Vanston, Vincent Jay, D016
 Vantilburg, Alex, B059
 Varner, Ashley, A013
 Varsi, Cecilie, D108
 Vasquez, Elizabeth, D113
 Vaughan, David, C141
 Vaughn, Amber E., C124
 Vela, Alyssa, D167
 Velez, Daisy, B055, B063
 Veluz-Wilkins, Anna K., C156
 Vera, Lisa E., D184
 Vernalis, Marina, B038
 Verschueren, Margaux, C082
 Vickers, Zata, N012
 Vickers Douglas, Kristin, B040
 Villanti, Andrea C., C155
 Villapiano, Albert, A033
 Villines, Todd, B038

Vinard, Andrea, C019
 Violanti, John M., B032, B034, D169
 Virk-Baker, Mandeep, C104, C153
 Voils, Corrine, B007
 Volkman, Julie E., B154
 von Wagner, Christian, D155
 Voss, Maren, B103, C077, C136, D076
 Vosvick, Mark, D065
 Vranceanu, Ana-Maria, C085
 Vrinten, Charlotte, D021

W

Wac, Katarzyna, D106
 Wachholtz, Amy, A126, D121
 Wade, Michael, C074
 Waggoner, Kathryn K., A109
 Wakschlag, Naomi, B172
 Waldo, Krystal, B164
 Walizer, Elaine, B038
 Walker, Lorraine, B146
 Walker, Natalie K., C164
 Walker, Paul R., B005
 Walkosz, Barbara, D166
 Wall, Sarah, A101, D060
 Wallander, Jan, C157
 Wallen, Gwenyth R., A123
 Wallington, Sherrie Flynt., B123
 Walsh, Casey, C139
 Walsh, Jennifer L., B153
 Walter, Jessica B., N025
 Walters, Scott, C096
 Walton-Pattison, Emily, D124
 Wan, Adrian H. Y., A039, B100, D091
 Wan, Alice, A031
 Wang, Chenchen, B130
 Wang, Judy Huei-yu, D018
 Wang, Leming, C086
 Wang, Monica L., B088
 Ward, Dianne S., A048, B085, C124
 Ward, Emery, D133
 Wardle, Jane, D021, D155, D165
 Waring, Molly, A016
 Warnick, Jennifer, B033
 Warren, Christopher, A023
 Warren, Eliza L., A049
 Washburn, Richard, A073, C123
 Washington, Armenta L., D025
 Waters, Erika A., D037, D168, N024
 Watkins, Kaitlin, B009
 Watson, Eric, A113, C149
 Webb, Jennifer B., A066, C107
 Weets, Ilse, C082
 Wehrlen, Leslie, B039
 Weinberger, Andrea H., D115
 Weinstein, Ali, B136
 Weinstein, Stephanie, C104
 Weinstein, Stephen, B176
 Weisburd, David, D063
 Weiss, Karen, N003
 Weitzman, Elissa R., A024, C035
 Welker, Kristen, B134

Wellisch, David, D019, N001
 Wellman, Joseph D., B075
 Wells, Kristen J., C062
 Wersland, Jennifer L., D190
 Westbrook, Travis, C178, D004
 Wetter, David, B131
 White, Justin, B030
 White Hughto, Jackie, B066
 Whitehead, Nicole (Nicky), C005
 Whiteley, Jessica, A055
 Whitfield, Thomas, C060
 Whittemore, Robin, A050, C050
 Whitworth, James W., A124, C058
 Widdershoven, Guy, B169
 Wideman, Marilyn, A028
 Wiebe, Deborah J., C048, D050
 Wilcox, Sara, A079, B173, D077, N018
 Wilder, Spencer, C142
 Wilfley, Denise E., C130
 Wilkens, Lynne, C117
 Wilkinson, Anna V., D130
 Wilkinson, Matthew, B165
 Williams, Carla, D022
 Williams, David M., A081, C148, C175
 Williams, Natasha J., B158, B166
 Williams, Pamela, D159
 Williams, Valerie, C155
 Williams, Wynette, B115
 Williamson, Meredith, A072
 Willoughby, Melody, B162, D115
 Wilmoth, Summer R., B080
 Wilson, Dawn K., B083, B096
 Wilson, Emily, D039
 Wilson, Mark, A080
 Wilson, Patrick M., B112
 Wilund, Kenneth, C038, C040
 Wimberly, Alexandra S., A127
 Winett, Richard, A081, C148
 Winett, Sheila, C148
 Winfree, Kyle, D148
 Wiprovnick, Alicia, C161
 Wirth, Michael, N018
 Wiseman, Kara, B014
 Wisnivesky, Juan P., B157
 Witkiewicz, Katie, N032
 Wolf, Michael, D155
 Wolff-Hughes, Dana L., A096
 Wolfson, Julia A., C100
 Wong, Brett, C038, C040
 Wong, Celia Ching Yee, C013, C025
 Wong, Queenie Song, A030, B144
 Wong, Serena, B171
 Woodall, Ashley, D153
 Woodall, Gill, B177
 Woodruff, Torri, D161
 Woods, Jeffrey, C038, C040
 Woods-Giscombe, Cheryl L., C045
 Wooldridge, Jennalee, B107, N022
 Woolf, Steven, D162
 Wright, Alexi A., B011
 Wu, Tong Tong, D153
 Wu, Yelena P., A017

2016 Annual Meeting Supplement

Wu, Yu-Yu, D067
Wyatt, Janan, N006
Wyckoff, Emily, A046
Wyman, Jean, D123

X

Xie, Bo, B146
Xie, Lijia, D044
Xiong, Suhong, D085
Xu, Haotian, A037

Y

Yan, Huiman, A062
Yan, Humin, D013
Yang, Li, B039
Yang, Miao, D009
Yang, Xiao, B030
Yang, Yan, D127
Yanovski, Jack, B160
Yaroch, Amy L., D082, D087
Ye, Jia, D067

Yee, Melissa K., D017
Yeh, Gloria, C046
Yeung, Nelson, A117, C025
Yin, Zenong, B080
Yingling, Leah, B140
Yolanda, Flores Peña, C027, C028
Yoo, Jeena, C045
You, Wen, B081
Young, Alexander S., D068
Young, Deborah, D153
Young, Jeremy C., D081
Young, Laura, C045
Young, Ta'Loria, A112
Yu, Hong, A044, D054
Yu, Jessica, D049
Yu, Tianzheng, C101
Yu, Yang, A071
Yuan, Nicole P., D172
Yuan, Patrick, D044
Yuang, Kimberly, B160
Yuen, Lai-ping, C081

Poster Author Index

Z

Zacharoff, Kevin, D163
Zalon, Margarete, B135
Zapka, Jane, D003
Zarrett, Nicole, A021, A095
Zavella, Pat, B093
Zelikovsky, Nataliya, A092, B067, B127, D147
Zhang, Dachuan, B164
Zhang, Fengqing, A070
Zhang, Hongmei, C117
Zhang, Jianying, A045
Zhang, Zhaoyang, A045
Zhao, Hua, D130
Zhao, Shixi, D067
Zhao, Songzhu, B034
Zheng, Yaguang, A071, B095, C128, C129
Zinar, Riley, D040
Zincavage, Rebekah, C050
Zoellner, Jamie M., A026, B081, D031
Zumer, Maria, D178
Zvolensky, Michael, B150

A

Abemethy, Alexis D., Paper Session 9, Symposium 39
 Abraham, Alison G., Paper Session 18
 Abrams, David B., Paper Session 15
 Abroms, Lorian C., Paper Session 48
 Achille, Marie, Paper Session 29
 Acree, Michael, Paper Session 50
 Adam, Cyrille, Seminar 4
 Adams, Marc, Symposium 12
 Adjei Boakye, Eric, Paper Session 21, Paper Session 38
 Afari, Niloofar, Symposium 16, Symposium 30, Symposium 31
 Aftosmes-Tobio, Alyssa, Paper Session 41
 Aguiñaga, Susan, Symposium 62
 Aguilar, Rosalie P., Panel Discussion 6
 Agunwamba, Amenah, Paper Session 25
 Ahern, David K., Panel Discussion 25, Symposium 3, Symposium 54, Symposium 77
 Ahn, Hyeong, Symposium 49
 Ai, Amy L., Paper Session 25
 Aikens, James E., Paper Session 24, Symposium 55
 Akula, Vinita, Paper Session 19
 Akushevich, Igor, Symposium 4
 Albright, Cheryl L., Paper Session 7
 Albright, Glenn, Seminar 4
 Alexander, Gwen L., Paper Session 3
 Alexander, Ramine, Symposium 33
 Alexander, Tesfa N., Paper Session 2
 Allegrante, John, Panel Discussion 12
 Allen, T. Tracy, Paper Session 15
 Allison, Jeroan, Paper Session 26
 Almirall, Daniel, Seminar 12, Symposium 36
 Alsaïd-Habia, Talya, Paper Session 47
 Altpeter, Mary, Symposium 32
 Amoyal PhD, Nicole, Paper Session 37
 Andersen, Barbara, Symposium 81
 Anderson, Barbara, Symposium 26
 Anderson, Benjamin, Symposium 67
 Anderson, Eric, Paper Session 15
 Anderson, Susan, Symposium 61
 Andreae, Susan, Paper Session 12
 Andrews, Taylor, Symposium 31
 Annane, Debra, Paper Session 31
 Antoni, Michael, Paper Session 31, Paper Session 37
 Antonio, Mapuana, Symposium 49
 Anzman-Frasca, Stephanie, Paper Session 32
 Archarya, Karabi, Symposium 14
 Arigo, Danielle, Paper Session 7
 Armitage, Christopher J., Symposium 15
 Arora, Monika, Paper Session 7
 Arredondo, Elva, Paper Session 16
 Arteaga, S. Sonia, Symposium 71
 Aryal, Subhash, Paper Session 36
 Asch, Steven, Symposium 4
 Aschbacher, Kirstin, Paper Session 50
 Aschbrenner, Kelly, Panel Discussion 13
 Asdigian, Nancy, Symposium 7
 Ashing, Kimlin T., Symposium 42
 Askew, Sandy, Paper Session 20
 Aspinwall, Lisa G., Paper Session 49
 Atherton, John, Symposium 65
 Atienza, Audie, Symposium 48

Atkins, E, Paper Session 13
 Augustson, Erik, Paper Session 15, Paper Session 26
 Austin, S Bryn, Paper Session 5, Seminar 1
 AuYoung, Mona, Paper Session 14, Paper Session 22, Symposium 11, Symposium 19, Symposium 69
 Avery, Melissa, Paper Session 23
 Avildsen, Isabelle, Symposium 59
 Awick, Elizabeth, Paper Session 40, Symposium 62
 Ayala, Guadalupe X., Paper Session 16
 Azarbayejani, Ali, Paper Session 36

B

Bacon, Simon, Paper Session 35, Paper Session 47
 Bacon, Simon, L, Paper Session 47
 Badenhop, Dalynn, Paper Session 6
 Baig, Sabeeh, Paper Session 11, Paper Session 38
 Bailey-Davis, Lisa, Symposium 73
 Bair, Matthew, Symposium 11
 Baldwin, Austin S., Panel Discussion 24
 Bale, Allen, Symposium 60
 Ballesteros, Juana, Symposium 63
 Ballinger, Lori, Paper Session 49
 Banegas, Matthew, Panel Discussion 11
 Banerjee, Banny, Symposium 43
 Bantug, Elissa, Symposium 81
 Baranowski, Tom, Symposium 38
 Barba, Jose, Symposium 76
 Barchi, Soraya, Paper Session 29
 Barker, Anna M., Paper Session 29
 Barnes, David, Symposium 31
 Barnes, Timothy L., Paper Session 19
 Barranco, Carolyn, Symposium 76
 Barr-Anderson, Daheia, Symposium 54
 Bartholomew, John, Paper Session 8
 Bartlett, Kiera, Symposium 15
 Basen-Enquist, Karen, Symposium 3
 Bass, Sarah Bauerle., Paper Session 48
 Bassett, Sarah, Paper Session 7
 Baucom, Donald, Symposium 32
 Baucom, Katie, Symposium 26
 Bauer, Timothy, Symposium 5
 Baxi, Sunita, Symposium 31
 Beadles, Chris, Symposium 4
 Bean, Melanie, Paper Session 6
 Beauchamp, Mark, Symposium 38
 Beaudouin, Elisabeth, Paper Session 12
 Beckjord, Ellen, Symposium 77
 Beehler, Gregory, Symposium 78
 Beekman, Janine B., Symposium 34
 Beers, Lee, Symposium 50
 Beesley, Vanessa L., Paper Session 31
 Beets, Michael, Symposium 54
 Befort, Christie, Panel Discussion 21
 Beharie, Nisha N., Paper Session 46
 Beland, Melanie, Paper Session 47
 Bellettiere, John, Paper Session 15
 Bellini, Paula, Paper Session 15, Paper Session 28, Paper Session 30
 Bender, Jackie L., Paper Session 48
 Bendis, Richard, Seminar 2
 Benkert, Ramona, Symposium 23

Bennett, Gary G., Paper Session 20, Paper Session 23, Symposium 12
 Benotsch, Eric, Paper Session 43
 Berardi, Vincent, Paper Session 15
 Berg, Cynthia, Paper Session 42, Symposium 26
 Berk, Michael, Symposium 65
 Berrigan, David, Symposium 47
 Beverly, Elizabeth A., Symposium 5
 Bhushan, Nivedita, Symposium 28
 Bian, Rachel, Symposium 46
 Bickmore, Timothy, Panel Discussion 25, Symposium 29, Symposium 77, Symposium 8
 Biddle, Ashley M., Paper Session 7
 Biddle, Caitlin, Paper Session 28
 Biesecker, Barbara, Paper Session 48, Symposium 40
 Bilbo, Staci, Symposium 67
 Billing, Lauren, Paper Session 23
 Binks, Martin, Symposium 70
 Birmingham, Wendy C., Paper Session 49
 Black, Ryan, Paper Session 46
 Blackmon, Jaime E., Paper Session 1, Symposium 81
 Blackwell, Caroline, Symposium 19
 Blaine, Rachel E., Paper Session 41
 Blais, Linelle, Paper Session 7
 Blais, Lucie, Paper Session 35
 Blake, Christine E., Paper Session 41
 Blanchard, Jeanine, Symposium 72
 Blanch-Hartigan, Danielle, Paper Session 36
 Bloss, Cinnamon S., Panel Discussion 9, Seminar 17
 Blossom, Jeffrey, Paper Session 5
 Bober, Sharon L., Symposium 81
 Bock, Beth, Paper Session 8, Paper Session 16
 Bodenlos, Jamie, Panel Discussion 2
 Bofill, Lina, Symposium 9
 Bogart, Laura, Symposium 21
 Bohnert, Amy, Paper Session 32, Paper Session 50
 Bokhour, Barbara, Paper Session 29
 Bokhour, Barbara G., Symposium 75
 Bolan, Robert K., Paper Session 18
 Bolton, Jamiyla, Paper Session 44
 Bolton, Rendelle E., Paper Session 29
 Bond, Dale S., Paper Session 17, Symposium 43
 Bormann, Jill, Symposium 31
 Borrelli, Belinda, Symposium 15
 Boruvka, Audrey, Seminar 14
 Boudreau, Maxine, Paper Session 47
 Bowen, Deborah, Symposium 13
 Boyas, Javier, Symposium 23
 Boyer, Edward, Paper Session 46
 Boynton, Marcella H., Paper Session 38
 Branch, Kira, Symposium 76
 Braun, Ilana, Symposium 77
 Braun, Kathryn, Symposium 49
 Braun, Lynne T., Paper Session 16
 Braxter, Betty J., Paper Session 12, Symposium 57
 Breland, Jessica Y., Symposium 27
 Brennan, Benjamin, Symposium 54
 Breuer, Brenda, Symposium 24
 Brewer, Noel T., Paper Session 11, Paper Session 21, Paper Session 38, Paper Session 45, Symposium 17, Symposium 40

2016 Annual Meeting Supplement

Presentation Author Index

- Briand, Samantha, Paper Session 47
Brikmanis, Kristin, Symposium 30
Broder-Fingert, Sarabeth, Symposium 21
Brogan Hartlieb, Kathryn, Symposium 1
Bromet, Evelyn, Symposium 74
Brooks, Alyssa T., Panel Discussion 16
Brown, Alison G.M., Paper Session 27
Brown, Clarissa M., Paper Session 32
Brown, Larry K., Paper Session 43
Brown, Ryan, Paper Session 4
Brown, Shirley, Symposium 42
Broyles, Stephanie, Paper Session 32
Brunette, Mary F., Panel Discussion 13
Bryan, Angela, Symposium 10, Symposium 48
Bryan, Angela D., Symposium 48
Buchholz, Susan W., Paper Session 16
Buckeridge, David, Paper Session 19
Bugos, Eva, Paper Session 25
Buitrago, Diana, Paper Session 35
Bullard, Tiffany, Paper Session 17
Buman, Kevin, Symposium 2
Buman, Matt, Symposium 43
Buman, Matthew, Panel Discussion 4, Symposium 2, Symposium 12, Symposium 33, Symposium 80
Buono, Frank, Paper Session 46
Burke, Lora E., Paper Session 27
Burke, Nancy, Paper Session 11, Paper Session 15
Burke-Garcia, Amelia, Paper Session 26
Burroughs, Joseph, Symposium 57
Bursac, Zoran, Symposium 20
Bursick, Shelly, Symposium 38
Burzynska, Agnieszka, Symposium 62
Bush, Amy, Symposium 27
Bushar, Jessica, Paper Session 48, Symposium 12
Buta, Eugenia, Symposium 41
Butryn, Megan, Symposium 36
Butryn, Meghan L., Paper Session 14, Paper Session 44, Symposium 64
Buttner, Melissa, Symposium 30
Buttner, Melissa M., Symposium 31
Bylund, Carma, Paper Session 28
Byrne, Margaret M., Symposium 68
Byron, M. Justin, Paper Session 38
- C**
Cabral, Patricia, Paper Session 43
Cacciatore, Joanne, Symposium 58
Cadmus-Bertram, Lisa, Paper Session 38
Callahan, Leigh, Symposium 32
Calo, William A., Paper Session 45
Campos, Claudia, Symposium 42
Camstra, Kevin M., Paper Session 1
Cannuscio, Carolyn, Paper Session 25
Cantu, Katherine, Paper Session 6
Capella, Joseph, Symposium 34
Carandang, Kristine, Symposium 72
Carey, Michael P., Paper Session 43
Carey, Rachel N., Symposium 45
Carillo, Melissa, Paper Session 35
Carlson, Jordan, Paper Session 40
Carmody, James, Paper Session 50, Seminar 16
Carpenter, Kristen M., Symposium 81
Carpenter-Song, Elizabeth, Panel Discussion 13
Carr, Lucas, Symposium 2
Carreiro, Stephanie, Paper Session 46
Carretta, Henry, Paper Session 25
Carroll, Jennifer K., Symposium 18
Carson, JoAnn, Paper Session 32
Carter, Janet, Paper Session 9
Carter, Jeanne, Symposium 81
Carthron, Dana, Symposium 6
Cartmel, Brenda, Symposium 60
Casale, Kristen, Symposium 81
Case, Doug, Symposium 19
Casey, Kelsey, Symposium 2
Caspi, Caitlin E., Paper Session 19
Cassel, Kevin, Paper Session 34
Cassidy, Omni, Panel Discussion 22
Casteel, Danielle, Panel Discussion 17
Castro Sweet, Cynthia M., Symposium 80
Catley, Delwyn, Paper Session 35
Catz, Sheryl L., Paper Session 15
Cecchini, Diego, Symposium 9
Centeio, Erin, Paper Session 8
Center, Kimberly, Panel Discussion 17
Cercione Heavey, Sarah, Paper Session 22
Cerrada, Christian J., Paper Session 11
Chamberlain, Daniel, Paper Session 10
Champassak, Sofie, Paper Session 35
Champine, Marjan, Paper Session 49
Chan, Celia H. Y., Paper Session 50
Chang, Douglas, Symposium 31
Chang, Evelyn, Symposium 4
Chang, Grace, Paper Session 1
Chaoul, Alejandro, Paper Session 16
Charles, Jo, Paper Session 41
Charlson, Mary, Symposium 1
Chen, Edith, Paper Session 1
Chen, Jack, Symposium 24
Cheng, Janice Ka Yan, Paper Session 11, Paper Session 15
Cheng, Zinan, Paper Session 28
Cherrington, Andrea, Symposium 63
Chhetri, Shlesma, Paper Session 6
Cho, Su, Paper Session 22
Choi, Kyle, Panel Discussion 17
Chou, Sylvia, Symposium 77
Choudhry, Niteesh, Symposium 9
Chriqui, Jamie F., Paper Session 19
Chue, Amanda, Symposium 37
Chung, Emma, Paper Session 46
Church, Timothy, Paper Session 16, Paper Session 40
Cirimele, Jesse, Symposium 43
Clarke, David, Symposium 65
Clarke, Jennifer, Paper Session 25
Clarke, Paige, Paper Session 33
Claus, Eric, Symposium 10
Clayton, Margaret, Symposium 25
Cleary, Sean D., Paper Session 48
Clements, Andrea, Paper Session 9
Clemow, Lynn, Symposium 55
Cleveland, Michael, Symposium 7
Cloutier, Michelle, Paper Session 23
Coa, Kisha I., Paper Session 15, Paper Session 26, Paper Session 33
Cobb, Nathan K., Symposium 38
Cogen, Fran, Paper Session 24
Cohen, Amy N., Paper Session 36
Cohen, Jason D., Paper Session 17
Cohen, Joshua, Paper Session 24
Cohen, Lorenzo, Paper Session 16
Cohn, Michael, Paper Session 7
Colditz, Graham, Paper Session 39, Symposium 56
Colditz, Jason B., Paper Session 26, Paper Session 29
Cole-Lewis, Heather, Panel Discussion 25
Coleman, Aaron, Panel Discussion 4
Collie-Akers, Vicki, Symposium 71
Collins, Linda, Paper Session 46, Symposium 36
Collins, Tracie, Symposium 67
Concha, Alyssa, Symposium 72
Conley, Colleen, Paper Session 50
Connell, Lauren, Symposium 45
Conroy, David E., Seminar 12, Symposium 38
Constantino, Rose Eva., Symposium 57
Cook, Dane, Paper Session 10
Cook, Robert L., Paper Session 18
Cook, Ryan, Paper Session 18, Symposium 9
Cooke, Gillian, Symposium 62
Cooley, Mary, Symposium 77
Coon, M, Paper Session 13
Cooney, Judith, Paper Session 22
Corbie-Smith, Giselle, Symposium 6
Corbin, Bethany, Paper Session 29
Costigan, Tracy E., Symposium 79
Coston-Clark, Llaen, Symposium 38
Coulon, Sandra, Paper Session 39
Coups, Elliot J., Panel Discussion 8, Paper Session 5, Paper Session 34, Symposium 60
Cox, Matthew, Paper Session 31, Symposium 3
Crain, Lauren, Symposium 36
Crane, Lori A., Symposium 7
Crane, Melissa M., Paper Session 44
Crawford, Sybil, Paper Session 8
Crespo, Noe, Symposium 2
Cristiani, Valeria, Paper Session 25
Croft, Janet B., Symposium 79
Crouter, Scott E., Paper Session 3
Cruciani, Gabriel, Paper Session 17
Cruice, Jane F., Paper Session 23
Cubbin, Catherine, Paper Session 39, Symposium 33
Cuevas, Adolfo, Symposium 23
Cully, Jeffrey, Symposium 27
Culp, Michelle, Panel Discussion 5
Cunningham, Karlene, Panel Discussion 21
Currier, Joseph M., Paper Session 9
Cutrona, Sarah L., Paper Session 26
Cykert, Samuel, Symposium 77
Cyphers, Natalie A., Paper Session 9
Cyr, Alaina B., Paper Session 48
Czajkowski, Susan M., Seminar 14, Symposium 1
- D**
D, Angela, Symposium 10
D'Agostino, Thomas A., Paper Session 28
Dallas, Ronald, Paper Session 18

Presentation Author Index

2016 Annual Meeting Supplement

- Damschroder, Laura J., Paper Session 14, Paper Session 22, Symposium 11, Symposium 19
Danford, Cynthia, Paper Session 27
Daniel, Casey, Paper Session 5
Darbes, Lynae, Symposium 21
Daubenmier, Jennifer, Paper Session 50
Daugherty, Stacie, Symposium 5
Dave, Raj, Paper Session 7
Davey, Adam, Paper Session 23
Davis, Jessica E., Paper Session 4
Davis, Kimberly M., Paper Session 28
Davison, Kirsten, Paper Session 41
Dawkins-Lyn, Nicola, Symposium 14
Daws, Rachel C., Paper Session 22
Day, Ashley K., Panel Discussion 2, Paper Session 5, Paper Session 34
Dayao, Zoneddy, Paper Session 49
de Bruin, Marijn, Symposium 45
De Michele, Mariana, Symposium 46
de Montigny, Luc, Paper Session 19
de Moor, Janet, Symposium 9
Dearth-Wesley, Tracy, Paper Session 9
DeHaven, Mark, Paper Session 32
Dekker, Joost, Symposium 56
Delahanty, Janine, Paper Session 2
Delaney, Harold, Paper Session 49
DeLaughter, Kathryn, Symposium 75
Dellavalle, Robert, Symposium 7
DeLurgio, Stephen A., Paper Session 35
Dempster, Katherine W., Paper Session 4
Derefinko, Karen, Symposium 20
DeSorbo-Quinn, Alexandra, Panel Discussion 12
Despres, Cliff, Panel Discussion 6
Devane-Johnson, Stephanie, Symposium 6
Devine, Carol, Symposium 1
DeWan, Andrew, Symposium 60
Dhingra, Lara, Paper Session 17, Symposium 24
Dhurandhar, Emily, Symposium 70
Diamond, Molly A., Paper Session 48
Diaz, Jesus, Symposium 72
Diazgranados, Nancy, Panel Discussion 16
Dickerman, Barbra, Symposium 66
Dickinson, Miriam, Symposium 7
DiClemente, Ralph, Paper Session 43
Dieckmann, Nathan, Symposium 24
Diefenbach, Michael, Symposium 59
Dillon, Matthew, Symposium 57
Dimond, Andrew J., Paper Session 30
Ding, Eric, Symposium 12, Symposium 54
Dinh, Julie, Symposium 27
DiPietro, Loretta, Symposium 53
Dixon, Brian, Paper Session 21
Dlugonski, Deirdre, Panel Discussion 11
Dobmeyer, Anne C., Symposium 78
Dodge, Tonya, Paper Session 33
Doering, Alex, Symposium 24
Dolan, Emilie M., Paper Session 47
Dolly, B, Paper Session 13
Donalson, Rosemary, Symposium 27
Donelan, Karen, Symposium 74
Donnelly, Joseph E., Symposium 18
Doran, Neal, Symposium 30
Dorflinger, Lindsey, Paper Session 22, Symposium 16
Dorflinger, Lindsey, Symposium 41
Dorfman, Lori, Symposium 35
Dorsey, Susan, Symposium 44
Doster, James H., Paper Session 44
Doswell, Willa M., Paper Session 12, Symposium 57
Dougherty, Patrick M., Paper Session 31
Douglass, K. Marie., Paper Session 18
Downs, Danielle Symons, Symposium 36, Symposium 73
Dragomir, Anda I., Paper Session 35, Paper Session 47
Drake, Carolyn, Seminar 5
Drake, Diane, Paper Session 32
Druker, Susan, Paper Session 8
Drummond, Karen, Symposium 75
Dubé, Laurette, Paper Session 19
Dubbert, Patricia, Symposium 27
DuBenske, Lori L., Symposium 77
Dunsiger, Shira, Paper Session 16, Symposium 15
Dunton, Genevieve F., Paper Session 4, Paper Session 10, Symposium 22, Symposium 43
Duong, Jennifer, Symposium 67
Dupuis, Roxanne, Paper Session 25
Duron, Ysabel, Symposium 42
Dutton, Gareth, Paper Session 14, Paper Session 44
Dwan, Rita, Paper Session 33
Dwyer, Laura, Symposium 13, Symposium 66
Dyer, Karen, Symposium 25
Dzubur, Eldin, Paper Session 10, Paper Session 11, Symposium 22, Symposium 43
- E**
Eagan, Katherine M., Paper Session 32
Eaglehouse, Yvonne L., Symposium 18, Symposium 69
Earnshaw, Valerie, Symposium 21
Eaton, Lisa, Paper Session 43
Ebbert, Jon, Symposium 20
Eberhardt, Mark, Symposium 53
Economos, Christina D., Paper Session 32
Edwards, Michael B., Paper Session 32
Edwards, Roger, Symposium 29
Eggly, Susan, Paper Session 29
Ehlers, Diane K., Paper Session 40, Symposium 29, Symposium 62
Eisenberg, Miriam H., Paper Session 4
Ekenga, Christine, Paper Session 39
El Jawahri, Areej, Paper Session 37
Elder, John, Paper Session 16
Eliezer, Dina, Symposium 51
Ellingson, Laura, Paper Session 10
Ellington, Lee, Symposium 25
Ellis, Carol, Symposium 61
Ellis, Deborah, Seminar 7
Ellis, Deborah A., Symposium 1
Ellis, Erin, Symposium 17
Elwood, William N., Seminar 13
Elwy, A. Rani, Symposium 31
Emanu, Jessica, Symposium 59
Embry, Judy, Seminar 10
Emery, Rebecca, Paper Session 23
Emmert-Aronson, Benjamin, Symposium 34
Endrighi, Romano, Paper Session 30
Eng, Euginia, Symposium 77
Eng, Jessica, Symposium 4
Epel, Elissa, Paper Session 50
Epstein, Dana, Symposium 33
Epstein, Leonard, Symposium 1
Erby, Lori, Paper Session 49
Errisuriz, Vanessa, Paper Session 8
Escolar, Diana M., Paper Session 48
Espel, Hallie, Symposium 16
Esposito, Craig, Symposium 37
Estabrooks, Paul, Symposium 33, Symposium 55
Evans, Brittany, Symposium 64
Evans, Brittney C., Symposium 64
Evans, Chalanda, Symposium 40
Evans, Martinus, Symposium 54
Evans-Hudnall, Gina, Symposium 27
Everhart, Lisa, Symposium 61
- F**
Fagerlin, Angela, Symposium 68
Fagundes, Christopher, Paper Session 16
Fan, Chun, Paper Session 25
Fan, Vincent, Paper Session 30
Fang, Hua, Paper Session 46
Fanning, Jason, Paper Session 40, Symposium 62
Faro, Jamie, Paper Session 3
Fawcett, Stephen, Symposium 71
Feast, Joshua, Paper Session 36
Febus-Sampayo, Ivis, Symposium 42
Feldstein Ewing, Sarah, Symposium 10
Feng, Hannah, Symposium 42
Feng, Hua, Paper Session 34
Ferguson, Marjorie, Symposium 31
Ferrer, Rebecca, Paper Session 33, Paper Session 38
Ferron, Joelle C., Panel Discussion 13
Ferrucci, Leah M., Symposium 60
Fihn, Stephan D., Symposium 4
Fine, Michael J., Paper Session 2
Finkelstein-Fox, Lucy, Symposium 31
Finney Rutten, Lila, Paper Session 25, Symposium 8
Fishbein, Joel, Paper Session 37
Fisher, Aaron, Symposium 65
Fisher, Edwin, Symposium 28, Symposium 63
Fitch, Christina, Symposium 24
Fix, Gemmae M., Paper Session 29, Symposium 75
Flannery, Kelly, Symposium 61
Fleary, Sasha, Paper Session 8
Fleisher, Linda, Paper Session 48
Fleming, Kandace, Paper Session 35
Fleszar, Sara, Symposium 59
Fletcher, Richard R., Paper Session 10
Florindez, Daniella, Panel Discussion 20
Florindez, Lucia I., Panel Discussion 20
Flores, Kristina, Paper Session 49
Floto, Elizabeth, Symposium 30
Foley, Perry, Paper Session 20
Folta, Sara, Paper Session 27, Paper Session 32
Fontaine, Kevin, Paper Session 14
Ford, Sabrina, Paper Session 13

2016 Annual Meeting Supplement

Presentation Author Index

Forman, Evan, Panel Discussion 1, Paper Session 14,
Paper Session 44, Symposium 16, Symposium
36, Symposium 64
Foster, Gary D., Paper Session 23
Foucault Welles, Brooke, Paper Session 5
Fowler, James, Symposium 54
Fowler, Lauren A., Paper Session 33
Fox, Doug, Paper Session 32
Frazier, Linda, Symposium 67
Freedland, Kenneth E., Seminar 14, Symposium 65
French, Simone, Paper Session 19
Friedmann, Erika, Symposium 61
Frierson, Georita, Panel Discussion 2
Frisard, Christine, Paper Session 8, Symposium 7
Frohnmayr, Amy, Symposium 51
Frost, David, Symposium 59
Fuemmeler, Bernard, Symposium 67
Fuessel-Herrmann, Dianna, Symposium 26
Fullerton, Karen, Paper Session 32
Funderburk, Jennifer, Symposium 78
Fung, Yat-Lui, Paper Session 50
Furler, John, Symposium 65

G

Gaillard, Leslie A., Paper Session 44
Gaissert, Philipp, Symposium 40
Galica, Kasia, Paper Session 26
Galik, Elizabeth, Symposium 62
Gallagher, Kathleen, Paper Session 9
Gallion, Kip, Panel Discussion 6
Galvan, Carmen, Paper Session 34
Galvan, Yudy, Symposium 63
Gamarel, Kristi E., Symposium 21
Ganda, Om, Paper Session 7
Gans, Kim, Paper Session 16
Ganter, Claudia, Paper Session 41
Gardiner, Casey K., Symposium 10
Garland, Sheila, Paper Session 31
Gartland, Nicola, Symposium 15
Gaur, Aditya, Paper Session 18
Gay, Jennifer L., Paper Session 27
Geana, Mugur V., Panel Discussion 14
Gebretsadik, Tebeb, Symposium 46
Gehlert, Sarah, Symposium 34
Gehrke, Amanda, Panel Discussion 22
Gelernter, Joel, Symposium 60
Geller, Alan, Panel Discussion 8, Paper Session 5,
Symposium 7, Symposium 66
Geller, Karly, Paper Session 39
Geneus, Christian, Paper Session 38
Genoff, Margaux C., Symposium 40
Gerend, Mary, Paper Session 21
Gershenwald, Jeffrey E., Paper Session 34
Getz, Melissa, Paper Session 22
Geynisman, Daniel M., Paper Session 48
Gibbons, Michael C., Symposium 8
Gibson, Bryan, Panel Discussion 25
Gicevic, Selma, Paper Session 41
Gierisch, Jennifer M., Paper Session 44
Gilbert, Keon, Symposium 13
Gilbertson-White, Stephanie, Symposium 61
Gilkey, Melissa B., Paper Session 45, Symposium 17

Gillman, Arielle S., Symposium 48
Gilman, Stephen, Paper Session 41
Gilmer, Todd, Panel Discussion 17
Gilrain, Kelly, Panel Discussion 23
Gina, Evans-Hudnall, Symposium 41
Ginzburg, Regina, Paper Session 17
Giraldo, Stephany, Paper Session 37
Gjerdingen, Dwenda, Paper Session 23
Glick, Jennifer L., Seminar 5
Godbole, Suneta, Paper Session 40
Godfrey, Kathryn M., Symposium 30
Godino, Job, Symposium 54
Godoy, Leandra, Symposium 50
Goethals, Eveline, Symposium 26
Goff, David, Symposium 19
Goggin, Kathy, Paper Session 35
Golaszewski, Natalie M., Paper Session 8
Goldbacher, Edie, Paper Session 4
Goldberg, Richard, Paper Session 36,
Symposium 27
Goldman, David, Panel Discussion 16
Goldman Rosas, Lisa, Symposium 80
Goldsmith, Rachel, Symposium 57
Goldstein, Carly Michelle, Panel Discussion 3,
Panel Discussion 18
Goldstein, Michael, Symposium 19
Goldstein, Stephane, Symposium 64
Goldstein, Stephanie, Paper Session 14,
Symposium 64
Gollust, Sarah E., Paper Session 19
Gonsalves, Diane, Paper Session 32
Gonzales, Felisa, Symposium 13
Gonzalez, Adam, Symposium 74
Gonzalez, Efrain A., Panel Discussion 23
Gonzalez, Gerardo, Paper Session 17
Gonzalez, Richard, Symposium 34
Gonzalez-Pons, Kwynn, Paper Session 6
Goode, Marissa, Panel Discussion 17
Goode, Rachel, Paper Session 27
Goodie, Jeffrey, Panel Discussion 22, Symposium
55, Symposium 78
Gooding, Holly C., Seminar 1
Goodman, Melody, Symposium 40
Goodrich, David E., Symposium 4, Symposium 18,
Symposium 41
Goplerud, Eric, Seminar 4
Gordon, Allegra, Paper Session 5
Gordon, Howard S., Symposium 75
Gordon, Louisa, Paper Session 31
Gorin, Amy, Paper Session 14, Paper Session 23
Gorrostieta, Cristina, Paper Session 36
Gortmaker, Steven L., Symposium 35
Gothe, Neha, Symposium 62, Symposium 80
Gottlieb, Stephen, Paper Session 30
Goulet, Joseph, Symposium 41
Gow, Rachel, Paper Session 6
Gowda, Arun, Paper Session 7
Gowey, Marissa A., Paper Session 14, Paper
Session 44
Goydos, James S., Paper Session 34
Grabowski, Matthew, Paper Session 4
Graffy, Jonathan, Symposium 63

Graham, Nicholas, Symposium 38
Grainger, David, Symposium 67
Grant, Autherene, Paper Session 23
Graves, Kristi D., Symposium 42
Green, Robert C., Paper Session 49
Greene, Kathryn, Symposium 60
Greer, Joseph, Paper Session 37
Gregoski, Mathew J., Panel Discussion 4
Greiner, Allen, Panel Discussion 14
Grenen, Emily, Paper Session 26
Grieco, Lauren, Symposium 43
Griffith, Michelle, Symposium 62
Grilo, Carlos, Symposium 16, Symposium 41
Grimard, Guy, Paper Session 29
Grimard, Marie, Paper Session 29
Grimshaw, Jeremy M., Paper Session 35
Groessler, Erik J., Symposium 31
Grov, Christian, Symposium 10
Grubber, Janet M., Paper Session 44
Gruenewald, Tara, Symposium 22, Symposium 43
Guan, Alice, Paper Session 11, Paper Session 15
Guan, Weihua, Symposium 80
Guan, Yue, Paper Session 49
Guillen, Melissa, Paper Session 22
Gunthert, Kathleen, Symposium 37
Guo, Penghong, Symposium 36
Gustafson, David, Symposium 77
Guthrie, Kate M., Paper Session 22
Gutierrez, Monica, Symposium 2

H

Hadley, Donald, Symposium 51
Hafez, Dina, Symposium 46
Hagerman, Charlotte, Paper Session 15, Paper
Session 28
Haibach, Jeffrey P., Panel Discussion 7,
Symposium 11
Haime, Vivian, Symposium 74
Hales, Sarah, Symposium 54
Hall, Katherine S., Panel Discussion 7
Hall, Marissa G., Symposium 17
Hall, Marissa G., Symposium 17
Hall, Megan E., Paper Session 45
Halloway, Shannon, Paper Session 16
Hamilton, Jada G., Symposium 40
Hanken, Kaitlin, Paper Session 32
Hanlon, Alexandra, Paper Session 20
Hanson, Carlie, Paper Session 25
Hardy, Kristina K., Symposium 50
Hardy, Steven J., Symposium 50
Hare, David, Symposium 65
Harnack, Lisa, Paper Session 19
Harper, Harry, Paper Session 15
Harris, Kristie, Paper Session 30
Harris, Melissa N., Paper Session 16, Paper Session 40
Harrison, Abigail, Paper Session 25
Hartman, Anne, Symposium 66
Hartman, Sheri J., Paper Session 16, Paper Session 38
Hartung, Emily, Paper Session 49
Hartzler, Andrea L., Paper Session 15
Harvey, Idethia Shevon., Paper Session 44
Harvey, Marie, Symposium 23

Presentation Author Index

2016 Annual Meeting Supplement

Harvey, S. Marie, Paper Session 43
Hastings, Susan, Symposium 4
Haughton, Christina F., Paper Session 27
Haughton, Jessica, Paper Session 16
Hausmann, Leslie R. M., Symposium 75
Havlak, Jessica, Paper Session 26
Hay, Jennifer, Paper Session 5, Symposium 40
Hay, Jennifer L., Symposium 40
Haydu, Lauren E., Paper Session 34
Hayes, Marcia, Symposium 36
Hayes, Rashelle, Symposium 12, Symposium 54
Hayman, Laura L., Seminar 15
Haynie, Denise, Paper Session 4
Hayward, R. David, Symposium 52
Heapy, Alicia, Symposium 41
Heard, Amy, Paper Session 50
Hecht, Frederick, Paper Session 50
Heck, Katherine E., Paper Session 39, Symposium 33
Heckler, Charles, Paper Session 31
Hedeker, Donald, Paper Session 7, Paper Session 14, Symposium 22
Heisler, Michele, Symposium 28, Symposium 49
Hekler, EB, Symposium 64
Hekler, Eric, Panel Discussion 4, Symposium 12, Symposium 64, Symposium 80
Hekler, Erik, Symposium 43
Helgeson, Vicki, Symposium 26
Hendrick, Chelsea A., Paper Session 16
Henley, Carrie, Seminar 3
Herbert, Linda, Symposium 26, Symposium 50
Herlache, Leah, Symposium 5
Hernández-Avila, Mauricio, Symposium 35
Hernandez, Hamilton, Symposium 38
Hess, Lindsey, Symposium 36
Hesse, Bradford W., Symposium 77, Symposium 8
Heyman, Mark, Panel Discussion 18
Hicks, Meghan, Symposium 33
Higgins, Diana, Symposium 41
Hill, Danielle, Paper Session 25
Hill, Whitney, Paper Session 6
Hillhouse, Joel, Symposium 7
Hipp, J. Aaron, Symposium 47
Histon, Trina, Symposium 19
Ho, Yun-Xian, Symposium 46
Hodis, Howard N., Paper Session 12
Hoersch, Michelle, Symposium 57
Hoerster, Katherine, Symposium 41
Hoff, Rani, Symposium 31
Hoffman, Beth L., Paper Session 2
Hoffman, Leah, Paper Session 2
Hoffman, Richard, Paper Session 28
Hoffman, Sara, Symposium 36
Hoffmann, Rebecca, Symposium 27
Hogan, Timothy P., Paper Session 29
Holleman, Rob, Symposium 41
Holleman, Robert G., Paper Session 14, Paper Session 22
Holman, Dawn, Symposium 66, Symposium 7
Holt, Cheryl, Paper Session 13
Holub, Christina, Panel Discussion 27
Homish, D. Lynn, Paper Session 22, Paper Session 28, Symposium 59

Homish, Gregory G., Paper Session 22
Hooker, Stephanie A., Symposium 45
Hoover, Adam, Panel Discussion 3
Hoover, Diana S., Paper Session 16
Hopkins, Christina M.,
Horigian, Viviana, Paper Session 18
Homer, Sharon, Symposium 76
Houston, Thomas, Paper Session 26, Symposium 75
Hovell, Melbourne F., Paper Session 15
Howard, Schubiner, Panel Discussion 19
Hoyo, Cathrine, Symposium 67
Hoyt, Michael A., Symposium 59
Hswen, Yulin, Paper Session 45
Hu, Lu, Paper Session 27
Hua, Andrew, Paper Session 17
Huang, Yen-Tsung, Paper Session 41
Huberty, Jennifer L., Symposium 12, Symposium 29, Symposium 58
Hubley, Sam, Paper Session 6
Hudson, Janella, Paper Session 29
Hudson, Linda B., Paper Session 27
Huebschmann, Amy, Panel Discussion 18, Symposium 5
Hughes, Jaime M., Panel Discussion 7
Hughes, Maria, Paper Session 14, Paper Session 22
Hughes, Suzanne, Paper Session 15
Hughes Lansing, Amy, Paper Session 42
Huh, Jimi, Paper Session 10, Paper Session 11, Symposium 22, Symposium 43
Hultgren, Brittney, Paper Session 34
Hunleth, Jean, Symposium 13
Huntbach, Bryce, Symposium 26
Hunter, Christine M., Seminar 14, Seminar 7
Hussey, James, Paper Session 41
Hutchison, Kent, Symposium 10
Huysmans, Zenzi, Paper Session 50
Hwang, Huhae, Symposium 57

I

Idalski Carcone, April, Symposium 1
Imes, Christopher C., Paper Session 27
Imm, Kellie, Paper Session 39
Indic, Premananda, Paper Session 46
Intille, Stephen S., Paper Session 10, Symposium 22, Symposium 43
Ironson, Gail, Symposium 52, Symposium 52
Irvin, Veronica L., Seminar 13
Isenberg, Sarina R., Paper Session 18
Iskandar, Melissa, Paper Session 19
Isom, Scott, Symposium 19
Issacs, Claudine, Symposium 40
Ivanovich, Jennifer, Symposium 40
Ivers, Noah M., Paper Session 35
Izadi, Sonya, Paper Session 39, Symposium 56

J

J. Moore, Philip, Symposium 37
Jacka, Felice, Symposium 65
Jackson, Devlon, Symposium 77
Jackson, Vicki, Paper Session 37, Symposium 74
Jackson Williams, Dahra, Symposium 76
Jacobsen, Paul, Symposium 68

Jacobson, Lisette, Symposium 67
Jacobson, Robert M., Paper Session 25
Jacques-Tiura, Angela J., Seminar 14, Symposium 1
Jain, Praduman, Panel Discussion 4
Jallo, Nancy, Paper Session 23
James, A. Everette., Paper Session 2
James, Aimee, Symposium 13
James, Caryl, Paper Session 25
Janes, Samuel, Paper Session 13
Janicek, Sarah, Symposium 62
Janke, E. Amy,
Jarecki, Jill, Paper Session 48
Jaser, Sarah S., Paper Session 24, Paper Session 42, Seminar 7
Jean-Louis, Girardin, Paper Session 20, Paper Session 25
Jeffers, Amy J., Paper Session 6
Jeffery, Robert, Paper Session 44, Symposium 36
Jensen, Roxanne E., Paper Session 1, Symposium 13, Symposium 42
Ji, Yuan, Seminar 14
Jiang, Luohua, Symposium 46
Jimenez, Marcia P., Paper Session 41
Johannsen, Neil M., Paper Session 40
John Li, Tamara, Symposium 50
Johnson, Andrea, Paper Session 1, Paper Session 2
Johnson, Kevin, Symposium 46
Johnson, Kimberly, Symposium 18
Johnson, Pamela R., Paper Session 48
Johnston, Marie, Symposium 45
Jojich-White, Una, Paper Session 47
Joncas, Julie, Paper Session 29
Jones, Deborah, Paper Session 18, Symposium 9
Jones, Heather, Paper Session 9
Jones, Nora, Symposium 77
Jones, Robert, Symposium 26
Joshi, James B D, Symposium 57
Jowers, Esbelle M., Paper Session 8
Juarascio, Adrienne, Paper Session 14, Symposium 16, Symposium 64
Juarez, Lucia, Paper Session 44
Julien, Cassandre A., Paper Session 47

K

Kaholokula, Joseph, Symposium 49
Kamen, Charles, Paper Session 31
Kamon, Jody, Paper Session 46
Kane, John, Paper Session 36
Kanzler, Kathryn E., Panel Discussion 26
Kaphingst, Kimberly A., Symposium 34, Symposium 40, Symposium 68
Kaplan, Robert M., Seminar 13
Kaseda, Erin, Paper Session 49
Kasting, Monica L., Paper Session 21
Katula, Jeffery A., Symposium 19
Katula, Jeffrey, Symposium 19
Kaufman, Annette, Paper Session 15, Paper Session 33
Kaufman, Fran, Paper Session 7
Kaufman, Neal, Symposium 46
Kay-Lambkin, Frances, Paper Session 36

2016 Annual Meeting Supplement

Presentation Author Index

- Keefe, Brian, Paper Session 26
Keefe, Francis, Paper Session 50, Symposium 32
Keeley, Robert, Paper Session 6
Keiper, Chris, Paper Session 9
Keith, Felicia, Paper Session 30
Kelly, Caitlin, Symposium 26
Kelly, John, Symposium 21
Kelly, Kimberly M., Paper Session 13
Kelly, Michael P., Symposium 45
Kelso, Natalie E., Paper Session 18
Kennedy, Stephenie K., Paper Session 13
Kent, Erin E., Symposium 25
Kerns, Robert D., Symposium 11
Kerr, Jacqueline, Paper Session 40
Kerrigan, Stephanie, Symposium 16
Kessler, Rodger S., Symposium 55
Ketcheson, Mallory, Symposium 38
Khan, Cynthia M., Symposium 32
Khandpur, Neha, Paper Session 41
Kibbey, Katherine, Symposium 65
Kibel, Adam, Paper Session 39
Kiernan, Michaela, Seminar 9, Symposium 33
Kilbourn, Kristin, Paper Session 37
Kim, Myra, Symposium 41
Kim, Rebecca, Symposium 37
Kim, Youngmee, Paper Session 37
Kim, Youngwon, Paper Session 10
King, Abby, Panel Discussion 12, Symposium 2, Symposium 43, Symposium 80
King, K., Paper Session 13
Kinney, Anita, Paper Session 49
Kinser, Patricia A., Paper Session 23, Symposium 58
Kinsinger, Linda, Symposium 19, Symposium 19
Kirsch, Alexandra, Paper Session 50
Kitzman-Ulrich, Heather, Paper Session 32, Paper Session 36
Kiviniemi, Marc T., Panel Discussion 24, Paper Session 33, Symposium 17
Klasnja, Predrag, Seminar 12
Klatt, Patricia, Paper Session 29
Klein, William, Paper Session 33, Symposium 17, Symposium 34
Klem, Mary Lou, Symposium 57
Klepeis, Neil, Paper Session 15
Klesges, Robert, Symposium 20
Klinedinst, Jennifer, Symposium 44
Klingaman, Elizabeth, Symposium 27, Symposium 41
Knotkova, Helena, Symposium 24
Knowlton, Amy, Paper Session 18
Kobayashi, Lindsay, Paper Session 13
Koehly, Laura, Paper Session 49, Symposium 51
Koenig, Alexandra, Paper Session 17
Kohl, Harold W., Paper Session 39, Symposium 33
Kohl Malone, Susan, Paper Session 20
Kohlmann, Wendy, Paper Session 49
Kohrt, Wendy, Symposium 5
Kolko, Rachel, Paper Session 23
Kollins, Scott, Symposium 67
Koomas, Alyssa, Paper Session 32
Koprowski, Carol, Symposium 22, Symposium 43
Korytkowski, Mary, Symposium 26
Kotov, Roman, Symposium 74
Kotowicz, Mark, Symposium 65
Kounaves, Sarah, Paper Session 25
Kowitt, Sarah D., Symposium 28, Symposium 63
Kozak, Andrea T., Paper Session 4
Kraak, Vivica I., Symposium 14
Kramer, Arthur F., Paper Session 17, Symposium 62
Kramer, Jenna, Paper Session 15
Kramer, M. Kaye, Symposium 69
Kramer, Tessa, Paper Session 22
Krantz, David S., Paper Session 30
Krause, Neal, Symposium 52
Kravchenko, Julia, Symposium 4
Kreyenbuhl, Julie, Paper Session 36
Kriska, Andrea, Symposium 18, Symposium 19, Symposium 69
Kristeller, Jean L., Symposium 24
Kron, Fred, Seminar 2
Kugler, Kari C., Paper Session 46, Symposium 36
Kulik, Noel, Paper Session 8
Kumanyika, Shiriki, Symposium 14
Kumar, Seema, Paper Session 25
Kunik, Mark, Symposium 27
Kuo, Charlene C., Paper Session 1, Symposium 42
Kupper, Amy E., Paper Session 17
Kurian, Allison, Symposium 13
Kutner, Jean, Paper Session 37
Kuzemchak, Maria, Symposium 68
Kwako, Laura E., Panel Discussion 16
Kwan, Bethany M., Paper Session 6
- L**
Léveillé, Vanessa, Paper Session 29
López-Cevallos, Daniel, Symposium 23
Labban, Alice, Paper Session 19
LaCabe, Richard, Paper Session 18
LaFont, Sarah, Paper Session 43
Lai, Lily, Symposium 42
Lamont, Andrea, Paper Session 39
Landoll, Ryan R., Panel Discussion 26
Lane, Hannah, Symposium 33
Lang, Magali, Paper Session 29
Langer, Michelle, Symposium 13
Langford, Aisha, Symposium 68
Lanoye, Autumn, Paper Session 3
Larkin, Knoll, Symposium 68
LaRose, Jessica Gokee, Paper Session 3
Larrivee, Sandra, Paper Session 16
Larsen, Britta, Paper Session 16
Laska, Melissa N., Paper Session 19
Latimer, Seth, Symposium 25
Latimer-Cheung, Amy, Symposium 38
Laudenslager, Mark L., Paper Session 37
Laurenceau, Jean-Phillipe, Symposium 37
Laurent, Devin, Paper Session 40
Laurin, Catherine, Paper Session 35
Lavoie, Kim L., Paper Session 35, Paper Session 47
Lawlor, Mike, Symposium 19
Lawman, Hannah G., Symposium 53
Layton, Tracy, Paper Session 38
Le, Daisy, Paper Session 13
Leachman, Sancy, Paper Session 49
Leahey, Tricia, Panel Discussion 21, Paper Session 3, Symposium 33
Leavitt, Leah, Paper Session 48
Lechner, Suzanne, Paper Session 31, Symposium 74
Lee, Amy, Paper Session 30
Lee, Chia-Kuei, Paper Session 10
Lee, Jungup, Paper Session 25
Lee, Kenneth, Paper Session 32
Lee, Rebecca E., Paper Session 39
Leeman, Jennifer, Paper Session 45
Leffell, David, Symposium 60
Leiferman, Jenn, Symposium 12, Symposium 58, Symposium 73
Leigh, Daniel, Paper Session 15, Paper Session 28
Leimpeter, Amethyst, Paper Session 28
LeMay, Sylvie, Paper Session 29
Lemon, Stephenie, Symposium 7
Lemon, Stephenie C., Paper Session 27
Lennon, Mary Clare, Paper Session 46
Leventhal, Adam, Symposium 22, Symposium 43
Levine, Michele D., Paper Session 23
Levy, Rona, Symposium 36
Levy, Sharon, Symposium 21
Lewandowski, Paul, Symposium 65
Lewis, Beth, Paper Session 23, Symposium 43, Symposium 80
Lewis, Cora E., Paper Session 44
Lewis, Tene, Symposium 6
Li, Tamara N., Symposium 50
Li, Yisheng, Paper Session 38
Liao, Yue, Paper Session 4
Lightfoot, Marguerita, Symposium 10
Liles, Sandy, Paper Session 15
Lin, Jielu, Paper Session 49
Lindamer, Laurie, Symposium 30
Ling, Josef, Symposium 10
Lin-Gomez, Scarlett, Symposium 13
Linke, Sarah E., Paper Session 16, Symposium 69
Linklater, Stefanie, Paper Session 35
Lipsky, Leah M., Paper Session 4
Lipton, Richard B., Paper Session 17
Little, Melissa, Symposium 20
Littman, Alyson, Symposium 41
Litz, Brett, Symposium 25
Liu, Danping, Paper Session 4
Llabre, Maria M., Paper Session 37
Lloyd, Daniel, Paper Session 46
Lobel, Marci, Symposium 51, Symposium 6
Lobo, Tania, Paper Session 1, Symposium 42
Lobstein, Tim, Symposium 14
Loew, Megan, Paper Session 18
Loh, Alice, Symposium 42
Long, Judith A., Symposium 75
Long, Melissa, Symposium 50
Lord, Jadenne, Paper Session 24, Paper Session 42
Lorenzo, Elizabeth, Paper Session 39
Lorgelly, Paula, Symposium 65
Loria, Catherine, Symposium 71
Loucks, Eric, Paper Session 41
Lowe, Michael, Paper Session 14

Presentation Author Index

2016 Annual Meeting Supplement

Lozano, Alicia J., Paper Session 20
 Lu, Amy S., Symposium 38
 Lu, Qian, Symposium 42
 Luberto, Christina M., Paper Session 47
 Lucette, Aurelie, Symposium 52
 Luft, Benjamin, Symposium 74
 Luger, Tana, Paper Session 26, Paper Session 29
 Luke, Markham, Panel Discussion 8
 Lumpkins, Crystal Y., Panel Discussion 14
 Luyckx, Koen, Paper Session 42, Symposium 26
 Lynch, Brian, Paper Session 25
 Lynch, Brigid, Paper Session 31
 Lynch, Elizabeth, Symposium 49
 Lynch, Sarah, Paper Session 12, Paper Session 24
 Lyons, Elizabeth, Symposium 3
 Lyons, Sarah, Symposium 40
 Lytle, Leslie, Paper Session 19

M

Ma, Qianheng, Paper Session 27
 Ma, Yu, Paper Session 19
 Mabachi, Natbhona, Panel Discussion 14
 Maciejewski, Matthew L., Paper Session 44, Symposium 4
 Maciejewski, Paul, Symposium 25
 Mack, Wendy, Paper Session 12
 Mackey, Eleanor R., Symposium 50
 MacNeil, Tara, Symposium 5, Symposium 5
 Madkins, Krystal, Paper Session 21
 Magidson, Jessica F., Panel Discussion 1
 Magill, Molly, Paper Session 25
 Magoc, Dejan, Symposium 38
 Maguen, Shira, Symposium 27, Symposium 41
 Mahaffey, Brittain, Symposium 74
 Maher, Jaclyn P., Symposium 22
 Mailey, Emily L., Panel Discussion 11, Symposium 2, Symposium 29
 Maisto, Stephen, Symposium 78
 Maiya, Meghan, Symposium 31
 Majors, Alesha, Symposium 67
 Majumder, Elora, Paper Session 24
 Makowski, Suzana, Symposium 24
 Maksut, Jessica L., Paper Session 43
 Maldonado, Christine Renee, Seminar 3
 Malo, Teri L., Paper Session 45
 Maloney, Erin, Paper Session 28
 Malow, Beth A., Paper Session 42
 Mama, Scherezade K., Panel Discussion 1, Paper Session 16
 Manasse, Stephanie, Panel Discussion 1, Paper Session 14, Symposium 16, Symposium 64
 Mancino, Juliet M., Paper Session 27
 Manganello, Jennifer, Paper Session 41
 Manne, Sharon, Paper Session 5, Symposium 32, Symposium 60
 Manos, Eva Laverne, Panel Discussion 14
 Marchant-Miros, Kathy, Symposium 75
 Marcum, Christopher, Paper Session 49, Symposium 51
 Marcus, Bess, Paper Session 16, Paper Session 23
 Margolin, Gayla, Symposium 22, Symposium 43
 Marker, Arwen M., Paper Session 32

Marques, Isabela, Symposium 62
 Marquez, Becky, Paper Session 16
 Marquez, David, Symposium 62
 Martin, CA, Symposium 64
 Martin, Corby K., Paper Session 40
 Martin, Emily C., Paper Session 31
 Masheb, Robin M., Paper Session 22, Symposium 16, Symposium 27, Symposium 41
 Mason, Ashley E., Paper Session 50
 Masters, Kevin, Symposium 45
 Matthews, Jeni, Symposium 58
 Mattos, Meghan K., Paper Session 27
 Maurer, Laurie, Paper Session 48
 May, Christine, Symposium 12, Symposium 29, Symposium 54, Symposium 7
 Mayer, Deborah, Symposium 77
 Mayer, Joni, Symposium 7
 Mayne, Susan, Symposium 60
 Mays, Darren, Paper Session 1, Paper Session 2, Symposium 60
 Mazzeo, Suzanne, Paper Session 6
 McAllister-Black, Randi, Symposium 39
 McAuley, Edward, Paper Session 17, Paper Session 40, Symposium 62
 McCaughtry, Nate, Paper Session 8
 McClain, Darya, Symposium 58
 McClain, James, Seminar 2, Symposium 53
 McClure, Jennifer, Paper Session 15
 McClure, Kelly, Paper Session 4
 McDermott, Kelly, Symposium 46
 McDermitt-Murphy, Meghan, Symposium 20
 McDonough, Manuela, Symposium 63
 McDowell, Kommah, Symposium 42
 McEntee, Mindy L., Symposium 16
 McEwen, Andy, Paper Session 13
 McFadden, H.G., Paper Session 14
 McGrady, Angele, Paper Session 6
 McKay, Mary, Paper Session 46
 McKee, Andrea, Paper Session 15
 McKenzie, Dean, Symposium 65
 McLeish, Alison C., Paper Session 47
 McMahon, Cori E., Panel Discussion 23, Paper Session 4
 McMahon, Siobhan, Symposium 80
 McNeill, Lorna, Paper Session 16, Paper Session 38
 McQueen, Amy, Panel Discussion 24
 McRee, Annie-Laurie, Symposium 17
 McVay, Megan, Paper Session 44
 Mead, Caroline, Paper Session 36
 Medoff, Deborah, Symposium 27
 Mehta, Darshan, Symposium 74
 Mejia, Michael G., Symposium 20
 Meleo-Meyer, Florence, Paper Session 8
 Mello, Daniel, Paper Session 42, Symposium 76
 Mendez, Armando, Paper Session 37
 Mendez, Dara, Paper Session 27
 Mendoza, Andrea, Paper Session 16
 Menino, David, Symposium 21
 Merchant, Gina, Symposium 54
 Meredith, Ian, Symposium 65
 Merker, Vanessa L., Symposium 74

Mermelstein, Robin, Symposium 22
 Metayer, Nesly, Paper Session 27
 Meyer, Jacob, Paper Session 10
 Michie, Susan, Symposium 45
 Midoun, Miriam, Paper Session 22
 Mihala, Gabor, Paper Session 31
 Miller, Aria, Symposium 42
 Miller, Arlene M., Paper Session 16
 Miller, Jacquelyn, Symposium 76
 Miller, Suzanne, Symposium 34
 Milliken, Laurie, Paper Session 3
 Milroy, Jeffrey, Paper Session 46
 Min, Kathryn, Paper Session 22
 Minges, Karl E., Panel Discussion 18, Symposium 46
 Mittal, Dinesh, Symposium 75
 Miyamoto, Robin, Symposium 49
 Mohammed, Kahee A., Paper Session 21, Paper Session 38
 Moin, Tannaz, Symposium 11, Symposium 19
 Moinpour, Carol M., Paper Session 1
 Moller, Arlen C., Symposium 38
 Monaghan, Maureen, Paper Session 24, Symposium 26, Symposium 50
 Monsma, Eva, Paper Session 27
 Montgomery, Guy, Panel Discussion 23
 Moon, Jon, Panel Discussion 3
 Moore, Brent, Paper Session 46
 Moore, David A., Panel Discussion 23
 Moore, Justin B., Paper Session 41
 Moore, Renee H., Paper Session 20
 Moore Simas, Tiffay, Symposium 29
 Moran, Kevin, Paper Session 40, Symposium 64
 Moran, Patricia J., Paper Session 50
 Morgan, Jennifer, Paper Session 11
 Morrow, Gary, Paper Session 31
 Moser, Richard P., Seminar 13
 Moskowitz, Judith T., Paper Session 7
 Moss, Jennifer L., Paper Session 21, Paper Session 45, Symposium 17
 Motl, Robert W., Paper Session 40
 Moullec, Gregory, Paper Session 35
 Mulcahy, Julie, Symposium 29
 Mullen, Sean P., Paper Session 17
 Mulvaney, Shelagh A., Seminar 7, Symposium 46
 Mun, Junbae, Paper Session 39
 Munoz, Juliana, Symposium 42
 Murphy, James, Symposium 20
 Murphy, Sarah, Paper Session 1
 Murphy, Susan, Seminar 12
 Mustanski, Brian, Paper Session 21
 Mustian, Karen, Paper Session 31
 Mutchler, Jan, Symposium 74
 Muwwakkil, Bettye, Paper Session 13

N

Naar, Sylvie, Seminar 14, Symposium 1
 Nahm, Eun-Shim, Symposium 61
 Nahum-Shani, Inbal, Seminar 12, Seminar 14
 Naidu, Maharsi, Paper Session 2, Paper Session 26

Najera, Elizabeth, Panel Discussion 26
 Nansel, Tonja R., Paper Session 4
 Napolitano, Melissa, Panel Discussion 15, Paper Session 12, Symposium 43
 Naslund, John A., Panel Discussion 13
 Naslund, Michael, Paper Session 13
 Natarajan, Madhu K., Paper Session 35
 Nebeker, Camille, Panel Discussion 9, Panel Discussion 27, Seminar 17, Symposium 8
 Nelson, Christian J., Symposium 59
 Nelson, Karin, Paper Session 30, Symposium 4
 Nelson, Lyndsay A., Symposium 46
 Nelson, Miriam E., Paper Session 32
 Nelson, Sandahl, Paper Session 38
 Nemoto, Tooru, Symposium 21
 Neumeyer, Ann, Symposium 21
 Nevedal, Andrea, Paper Session 30
 Newlan, Sami A., Paper Session 41
 Newsome, Valerie, Paper Session 20
 Newton, Robert L., Paper Session 16, Paper Session 32
 Ng, Shu Wen, Symposium 35
 Nguyen, Ben, Paper Session 15
 Nguyen, Nga, Paper Session 38
 Nguyen, Tung, Paper Session 11, Paper Session 15
 Niaura, Raymond, Paper Session 2
 Nicholson, Andrea, Paper Session 48
 Nicolas, Mario, Panel Discussion 26
 Nicoloro SantaBarbara, Jennifer, Symposium 51
 Niederdeppe, Jeff, Paper Session 20
 Nielsen, Matthew, Panel Discussion 26
 Nielson, Spencer J., Paper Session 49
 Nigg, Claudio, Panel Discussion 12, Paper Session 8
 Nilsen, Wendy, Panel Discussion 3, Seminar 11
 Nipp, Ryan, Paper Session 37
 Noar, Seth, Paper Session 5
 Noar, Seth M., Symposium 17
 Noble, Madison, Paper Session 16
 Nolt, Anne T., Symposium 39
 Nosal, Sarah, Paper Session 17
 Novy, Diane, Paper Session 31
 Nuru-Jeter, Amani, Symposium 13

O

O, Neil, Patrick, Symposium 70
 Oakes, J Michael, Symposium 80
 Oakley, Lisa, Paper Session 43
 Obayashi, Saori, Paper Session 15
 Obi, Ada, Paper Session 48
 O'Brien, Kerth, Symposium 23
 O'Bryan, Emily M., Paper Session 47
 Offit, Kenneth, Symposium 40
 Ogedegbe, Gbenga, Paper Session 20
 Oh, April, Paper Session 38, Symposium 48, Symposium 77
 Okafor, Chukwuemeka, Paper Session 18
 Okhvat, Jean-Phillip, Symposium 66
 Okhovat, Jean-Phillip, Symposium 66
 Oldenburg, Brian, Symposium 65
 Oldroyd, John, Symposium 65
 O'Leary, Kevin C., Paper Session 17
 Olendzki, Barbara, Paper Session 8
 Olendzki, Effie, Symposium 12, Symposium 54

Oleski, Jessica, Symposium 12, Symposium 29, Symposium 54, Symposium 7
 Oliver, Karen, Panel Discussion 21
 Olivero, Samantha, Paper Session 32
 Olsen, Maren, Paper Session 44, Symposium 32
 O'Neil, Adrienne, Symposium 65
 O'Neill, Suzanne C., Symposium 40
 Operario, Don, Symposium 21
 Oris, Leen, Paper Session 42, Symposium 26
 Orner, Michelle, Symposium 75
 Orom, Heather, Paper Session 28, Seminar 13, Symposium 59
 Orr, Lilla, Symposium 54
 Osazuwa-Peters, Nosayaba, Paper Session 21, Paper Session 38
 Osborn, Chandra Y., Panel Discussion 18, Symposium 46
 Ounpraseuth, Songthip, Symposium 75
 Outcalt, Samantha D., Symposium 11
 Overstreet, Nicole M., Symposium 6
 Owen, Richard, Symposium 75
 Owens, Judith A., Symposium 79

P

Padela, Aasim, Symposium 49
 Padilla-Romero, Priscilla, Symposium 80
 Paggi, Nicholas W., Paper Session 10
 Pagoto, Sherry, Panel Discussion 8, Symposium 7, Symposium 12, Symposium 29, Symposium 54, Symposium 60
 Paine, Nicola J., Paper Session 47
 Palac, Daniel, Paper Session 17
 Paloma, Diane, Symposium 49
 Panda, Jason, Panel Discussion 28
 Pandit Talati, Payal, Paper Session 34
 Panza, Emily, Symposium 55
 Papa, Anthony, Symposium 25
 Paquet, Catherine, Paper Session 19
 Parada, Humberto, Symposium 63
 Parent, Stefan, Paper Session 29
 Park, Anna, Symposium 2
 Park, Crystal, Symposium 31, Symposium 37, Symposium 52
 Park, Elyse R., Paper Session 37, Symposium 74
 Parker, Barbara, Paper Session 38
 Parker, Portia D., Paper Session 20
 Parra, Maira T., Paper Session 16
 Parrott, Roxanne, Symposium 34
 Parsons, Jeffrey T., Symposium 10
 Pasco, Julie, Symposium 65
 Pate, Russell R., Symposium 71
 Patel, Niral J., Paper Session 24, Paper Session 42
 Pathak, Neha, Symposium 4
 Patrick, Heather, Symposium 48
 Patrick, Kevin, Symposium 54
 Patterson, Elissa H., Panel Discussion 19
 Patterson, Freda, Paper Session 20
 Pauley, Abigail, Symposium 36
 Pavlek, Mila, Paper Session 46
 Pavlovic, Jelena M., Paper Session 17
 Payson, Elyse, Symposium 57
 Pbert, Lori, Paper Session 8, Paper Session 50

Peasant, Courtney, Panel Discussion 28
 Peay, Holly L., Paper Session 48
 Pedley, Carolyn, Symposium 19
 Pekmezi, Dorothy, Paper Session 16
 Pellegrini, Christine, Paper Session 14, Paper Session 40, Symposium 36
 Pelletier, Jennifer E., Paper Session 19
 Peltzer, Karl, Paper Session 18
 Penalosa, Gil, Symposium 47
 Penedo, Frank J., Paper Session 35
 Penner, Louis, Paper Session 29
 Peoples, Anita, Paper Session 31
 Pepper, Jessica K., Paper Session 11
 Peppone, Luke, Paper Session 31
 Perez, Giselle K., Symposium 74
 Perez, Katia M., Paper Session 24, Paper Session 42
 Perez, Lilian, Paper Session 16
 Perkins, Hannah, Symposium 68
 Perlman, Katherine L., Paper Session 50
 Perna, Frank, Seminar 14, Symposium 66
 Perri, Michael G., Paper Session 14, Paper Session 44, Symposium 33
 Persky, Susan, Paper Session 33, Symposium 34
 Peskin, Steven, Symposium 63
 Peters, Anne, Symposium 46, Symposium 72
 Peterson, Janey, Symposium 1
 Peterson, Susan, Symposium 3
 Petosa, Rick, Paper Session 40
 Petry, Nancy, Seminar 7
 Pfammatter, Angela, Paper Session 7, Paper Session 14, Symposium 64
 Phatak, Sayali, Symposium 64
 Phillips, Erica, Symposium 1
 Phillips, Gregory, Paper Session 21
 Phillips, L. Alison, Paper Session 24
 Phillips, Siobhan M., Panel Discussion 11
 Philogene, G. Stephane., Seminar 13
 Piatt, Gretchen, Symposium 46
 Pierce, John P., Paper Session 38
 Piette, John, Paper Session 24
 Pirl, William, Paper Session 37, Symposium 74
 Pittman, James, Symposium 30
 Pitts, Patricia, Paper Session 9
 Place, Skyler, Paper Session 36
 Plankey, Michael, Paper Session 18
 Plegue, Melissa, Symposium 46
 Plotkin, Scott, Symposium 74
 Poirier, Josée, Symposium 38
 Politi, Mary, Symposium 68
 Pope, Charlene, Symposium 75
 Porchia, Sylvia, Symposium 75
 Portenoy, Russell, Paper Session 17, Symposium 24
 Porter, Gwenndolyn C., Paper Session 40
 Porter, Kathleen, Symposium 33
 Porter, Laura, Symposium 32, Symposium 81
 Portnoy, David B., Panel Discussion 11
 Potosky, Arnold, Paper Session 1, Symposium 13
 Prado, Guillermo, Paper Session 18
 Pratt, Michael, Symposium 47
 Presseau, Justin, Paper Session 35
 Prigerson, Holly, Symposium 25

Presentation Author Index

2016 Annual Meeting Supplement

Primack, Brian A., Paper Session 2, Paper Session 26,
Paper Session 29
Printz, Destiny, Paper Session 46
Privette, C. Kyle., Paper Session 18
Ptomey, Lauren, Symposium 18
Puchalski, Christina M., Symposium 24
Putman, Katharine M., Paper Session 9
Pyatak, Beth, Symposium 72
Pyatak, Elizabeth, Symposium 72

Q

Quaife, Samantha, Paper Session 13
Quarells, Rakale C., Panel Discussion 10
Queen, Tara, Symposium 26
Quinlan, Jeffrey D., Panel Discussion 22
Quinn, Christopher M., Paper Session 19
Quintanilla, Isaac, Paper Session 15
Quintiliani, Lisa, Panel Discussion 27

R

R, Andrew, Symposium 10
Ra, Chaelin Karen, Paper Session 11
Raiff, Bethany, Seminar 14
Raithel, Allison, Paper Session 29
Raja, Sheela, Symposium 57
Ralph, Jody L., Paper Session 9
Ramchandani, Vijay, Panel Discussion 16
Ramirez, Amelie, Panel Discussion 6
Ramos, Rosio, Symposium 1
Ramsaier, Michael, Paper Session 15
Ramsey, Meagan, Paper Session 42, Symposium 26
Ranby, Krista W., Paper Session 24
Ranjani, Harish, Paper Session 7
Rao, Sowmya R., Paper Session 26
Rathier, Lucille, Paper Session 17
Rawlett, Kristen, Symposium 61
Ray, Kristen, Paper Session 49
Raynor, Hollie, Symposium 1
Reader, Steven, Symposium 76
Reblin, Maija, Symposium 25
Recklitis, Christopher J., Paper Session 1,
Symposium 81
Reddy, Sethu, Paper Session 7
Redmond, Michelle, Symposium 67
Reese, Jennifer Barsky., Symposium 81
Reese, Robert Jeff, Symposium 20
Reeve, Bryce B., Paper Session 1, Symposium 13
Regensteiner, Judith, Symposium 5
Regis, Shawn, Paper Session 15
Reich, Genevieve, Symposium 76
Reisner, Sari, Symposium 21
Reiter, Paul, Paper Session 21, Symposium 17
Reitzel, Lorraine R., Paper Session 38
Rejeske, Jack, Symposium 62
Ren, Dianxu, Symposium 57
Rendina, H. Jonathon, Symposium 10
Rendon, Alexis, Paper Session 36
Renn, Brenna N., Symposium 27
Renninger, Steffi, Paper Session 33
Resnick, Barbara, Seminar 15, Symposium 44,
Symposium 61, Symposium 62
Resnicow, Ken A., Paper Session 3, Symposium 68

Reusch, Jane, Symposium 5
Revenson, Tracey A., Symposium 51, Symposium 59
Reyes, Karina, Paper Session 35
Rhodes, Ryan E., Symposium 38
Ribisl, Kurt, Paper Session 38
Ribisl, Kurt M., Symposium 17
Richard, Seime J., Panel Discussion 19
Richards, Chad, Symposium 38
Richardson, Caroline R., Paper Session 14, Paper
Session 22, Symposium 11, Symposium 19,
Symposium 46, Symposium 69
Richardson, Lauren, Symposium 39
Richman, Joshua, Paper Session 12
Riddle, Melissa, Panel Discussion 5
Riggs, Alexa, Symposium 24
Riklin, Eric, Symposium 74
Riley, Kristen, Symposium 37
Riley, William, Panel Discussion 25, Symposium 22
Rimer, Barbara K., Paper Session 21, Paper Session 45
Rimkus, Leah, Paper Session 19
Rini, Christine, Symposium 32
Ritchie, Lorene D., Symposium 71
Ritholz, Marilyn D., Symposium 5
Rivera, Daniel, Symposium 36
Rivera, DE, Symposium 64
Ro, Diana, Paper Session 9
Robbins, Rebecca, Paper Session 20
Roberson, Crystal L., Paper Session 38
Roberson, Wesley, Symposium 19
Roberts, J. Scott, Paper Session 49
Roberts, Sarah, Paper Session 40
Robertson, Belinda Ryan., Paper Session 31
Robinson, Allysha, Paper Session 18
Robinson, June K.K., Paper Session 34
Robinson, Millicent, Symposium 6
Robinson, Thomas, Symposium 43
Robson, Mark E., Symposium 40
Rockette-Wagner, Bonny, Symposium 18,
Symposium 69
Rodriguez, Sandra, Paper Session 17
Rodriguez, Violeta, Paper Session 18
Rodriguez, Vivian M., Symposium 40
Rohr, Danielle, Paper Session 6
Rohrmayer, Kallie, Paper Session 9
Rojas, Carlos, Paper Session 16
Rojek, Rebecca P., Paper Session 21
Roman, Anthony, Paper Session 1
Romer, Dan, Paper Session 43
Romney, Chelsea, Paper Session 49
Roscoe, Joseph A., Paper Session 31
Rose, Marisa Z., Paper Session 23
Rosen, Jamie, Paper Session 3
Rosenberg, Dori, Paper Session 40
Rosenkranz, Sara, Symposium 2
Rosenthal, Lisa, Symposium 6, Symposium 21
Ross, Kaile, Symposium 45
Ross, Kathryn, Symposium 33
Rossi, Joseph, Paper Session 25
Roter, Debra, Paper Session 49
Roth, Andrew, Symposium 59
Roth, Julie, Paper Session 17
Rothman, Alexander, Paper Session 19, Symposium 80

Rothman, Alexander J, Symposium 45
Rothman, Emily F., Symposium 57
Rothschild, Chelsea, Symposium 5
Rouse, S., Paper Session 13
Rowland, Julia H., Symposium 81
Ruben, Mollie A., Paper Session 29
Rubenstein, Lisa, Symposium 4
Rubin, Channah, Paper Session 36
Ruggieri, Madelyn,
Ruggiero, Aria, Symposium 37
Rukstalis, Margaret, Paper Session 3
Runge, Carlisle, Paper Session 19
Ruser, Christopher, Paper Session 22, Symposium 41
Rush, Christina, Symposium 42
Russell, Katie, Symposium 67
Russo, Michele, Symposium 26
Ryman, Sephira, Symposium 10

S

Sabbineni, Amithrupa, Symposium 10
Sacheck, Jennifer, Paper Session 32
Sadasivam, Rajani, Paper Session 26
Safford, Monika M., Paper Session 12, Symposium 28
Sagherian, Knar, Symposium 61
Saiki, Kara, Paper Session 7
Salas, Karla, Paper Session 35
Saligram, Nalini, Paper Session 7
Salinas, Jesse, Panel Discussion 14
Salive, Marcel E., Symposium 56
Sallis, James F., Paper Session 16, Symposium 53
Salmoirago-Blotcher, Elena, Paper Session 8
Salsman, John M., Paper Session 1
Salvo, Deborah, Symposium 80
Sanchez, Carmen, Symposium 67
Sanderon, Kristy, Symposium 65
Sangiriy, Shubhada, Symposium 27
Sargent, James D., Paper Session 2
Sarkin, Andrew, Panel Discussion 17
Sarmiento, Olga, Symposium 47
Savage, Jennifer, Symposium 36, Symposium 73
Savin, Kimberly L., Paper Session 24, Paper Session 42
Sawyer, Ashlee N., Paper Session 43
Schaal, Jennifer, Symposium 77
Schechter, Julia, Symposium 67
Schembre, Susan M., Paper Session 4, Symposium 3
Schiller, Robert, Paper Session 17
Schilling, Lisa, Symposium 19
Schindler-Ruwisch, Jennifer, Paper Session 48
Schmalzl, Laura, Symposium 31
Schmidt, Cari, Symposium 67
Schneider, Margaret, Panel Discussion 12
Schneiderman, Neil, Paper Session 37
Schnitker, Sarah, Paper Session 9
Schnur, Julie B., Symposium 57
Schoeny, Michael E., Paper Session 16
Schoffman, Danielle E., Paper Session 41, Seminar 9
Schumacher, Leah, Paper Session 44, Symposium 16
Schwabacher, Isaac, Paper Session 10
Schwalm, J.D., Paper Session 35
Schwartz, Marc, Symposium 40
Schwartz, Sharon, Symposium 81
Scott, I'Yanna, Paper Session 28

2016 Annual Meeting Supplement

Presentation Author Index

- Seburg, Elisabeth, Symposium 36
Segar, Michelle, Symposium 48
Seidenberg, Andrew B., Paper Session 5
Seixas, Azizi, Paper Session 20, Paper Session 25
Sen, Ananda, Symposium 46
Seo, Hyunijini, Panel Discussion 14
Sepah, Cameron, Symposium 46
Sereika, Susan M., Paper Session 27
Serio, Catherine D., Seminar 3
Serrano, Mayra, Symposium 42
Serrano, Natalicio, Paper Session 16
Sgro, Jordan, Paper Session 49
Shad, Aziza T., Paper Session 1
Shaffer, Kelly M., Paper Session 37
Shah, Parth D., Paper Session 45
Shallcross, Amanda J., Panel Discussion 10
Shariff-Marco, Salma, Symposium 13
Sharkey, Joseph, Symposium 69
Sharon, Herring J., Paper Session 23
Shaub, Tim, Paper Session 40
Sheats, Jylana, Symposium 43, Symposium 80
Sheeran, Paschal, Symposium 17
Sheinfeld Gorin, Sherri, Symposium 69
Shelby, Rebecca A., Paper Session 50
Shelton, Rachel, Symposium 23
Shen, Biing-Jiun, Paper Session 12
Shensa, Ariel, Paper Session 2
Shepardson, Robyn L., Symposium 78
Sherwood, Nancy, Panel Discussion 1, Paper Session 44, Symposium 36
Shieh, Jennifer, Seminar 2
Shiffman, Saul, Paper Session 2
Shin, Hee-sung, Paper Session 11
Short, Tonya, Paper Session 38
Shuk, Elyse, Paper Session 28, Symposium 40
Shuman, Saskia, Paper Session 17
Sidani, Jaime E., Paper Session 2, Paper Session 29
Siddique, Juned, Paper Session 14
Sideroff, Stephen, Seminar 6
Sieber, William, Symposium 55
Sieke, Rachel, Paper Session 6
Siembida, Elizabeth J., Paper Session 43
Sifunda, Sibusiso, Paper Session 18
Silfee, Valerie, Paper Session 40
Silver, Lynn, Symposium 35
Siminoff, Laura, Symposium 25
Simmons, David, Symposium 63
Simmons, Janine, Seminar 13
Simon, Christine L., Paper Session 41
Simoneau, Teresa, Paper Session 37
Slade, Jimmie, Paper Session 13
Slater, Sandy, Paper Session 39
Slightam, Cindie, Paper Session 30
Slymen, Don, Paper Session 16
Smith, Clayton, Paper Session 2
Smith, Erin R., Paper Session 43
Smith, Jeffrey, Symposium 75
smith, katherine, Symposium 81
Smith, Miquela G., Paper Session 49
Smith, Noah A., Paper Session 26
Smith, Sarah, Symposium 13
Smith, Sharla, Symposium 67
Smith Frank, Leslie, Paper Session 8
Smyth, Joshua M., Symposium 37
Snapp, Shannon, Paper Session 39
Snyder, Mallory A., Paper Session 1
Soderberg, Courtney, Panel Discussion 5
Sokol, Anastasia, Paper Session 4
Sokol, Rebecca, Paper Session 19
Soneji, Samir, Paper Session 2
Sontag, Jennah, Paper Session 5
Soo, Mary Scott, Paper Session 50
Spain, Peter, Symposium 60
Spence-Almaguer, Emily, Paper Session 6, Paper Session 36
Spencer, Andrene, Paper Session 9
Spring, Bonnie, Panel Discussion 13, Panel Discussion 24, Paper Session 7, Paper Session 14, Paper Session 40, Seminar 12, Symposium 1, Symposium 36, Symposium 64
Spruijt-Metz, Donna, Symposium 72
Spruill, Tanya, Panel Discussion 10
Stagl, Jamie M., Paper Session 37
Staley Shumaker, Bri, Symposium 39
Stanek, Gena, Symposium 61
Stanger, Catherine, Paper Session 42, Seminar 7
Stanley, Melinda, Symposium 27
Stanton, Cassandra, Paper Session 12, Paper Session 15, Paper Session 26
Stapleton, Jerod L., Paper Session 5, Paper Session 34, Symposium 60
Starks, Tyrel, Symposium 21
Steger, Felicia, Symposium 18
Stein, Karen, Paper Session 10
Stein, Lyn, Paper Session 25
Steinberg, Dori, Paper Session 20
Stern, Alexa, Symposium 26
Stetson, Barbara, Panel Discussion 2, Panel Discussion 2, Symposium 5
Stevens, Courtney J., Symposium 48
Stirratt, Michael J., Seminar 13, Symposium 9
Stockdale, Susan, Symposium 4
Stoll, Carolyn, Symposium 56
Stoutenberg, Mark, Symposium 18
Strauss, Warren J., Symposium 71
Street Jr., Richard L., Symposium 34
Streisand, Randi, Symposium 26
Strong, Larkin L., Paper Session 16, Paper Session 38, Symposium 3
Strupp, Emily, Paper Session 25
Stuart, Amanda, Symposium 65
Studts, Jaime, Symposium 20
Studts, Jamie L., Panel Discussion 24, Symposium 68
Stump, Tammy K., Paper Session 49
Stupiansky, Nathan, Paper Session 21
Sued, Omar, Symposium 9
Sullivan, Katrina J., Paper Session 35
Suls, Jerry, Symposium 56
Sun, Yilun, Paper Session 18
Sussman, Steve, Paper Session 46
Sutcliffe, Siobhan, Paper Session 39
Swank, Aaron, Symposium 2
Swartz, Maria, Symposium 3
Switzer, Galen E., Paper Session 29
Szabo-Reed, Amanda, Symposium 18
- T**
Taber, Daniel R., Paper Session 19
Taber, Jennifer, Paper Session 33, Symposium 48, Symposium 66
Talan, Ali, Seminar 5
Talcott, Gerald W., Symposium 20
Tang, Li, Paper Session 18
Tang, Patrick Y., Symposium 63
Tang, Xuyang, Paper Session 19
Tannenbaum, Stacey, Symposium 68
Tanner, Amanda, Paper Session 46
Tapera, Tinashe M., Symposium 64
Taplin, Stephen, Symposium 13
Tate, Deborah F., Paper Session 48, Symposium 3
Taylor, Andrew, Paper Session 3
Taylor, C. Barr, Symposium 65
Taylor, Kathryn, Paper Session 15, Paper Session 28
Team, CommunityRx, Symposium 77
Teets, Ray, Paper Session 17
Temel, Jennifer, Paper Session 37
Tercyak, Kenneth, Paper Session 1, Paper Session 2, Symposium 60
Tesauro, Gina, Symposium 66
Thai, Chan, Paper Session 33, Symposium 48
Thakur, Elyse, Symposium 27
Thomas, J. Graham, Panel Discussion 3, Paper Session 17, Symposium 43
Thomas, Sue, Symposium 61
Thomaz, Edison, Symposium 64
Thompson, Hayley S., Symposium 42
Thomson, Maria, Symposium 25
Thornton, Laura M., Paper Session 6
Thornton, Louise K., Paper Session 36
Tibben, Aad, Paper Session 48
Tija, Jennifer, Symposium 24
Tilert, Timothy, Symposium 53
Tiro, Jasmin A., Panel Discussion 24
Toaff, Miriam, Symposium 26
Tobo, Betelihem B., Paper Session 21, Paper Session 38
Toledo, Meynard, Symposium 33
Tooley, Erin, Symposium 15
Torres, Migdalia, Symposium 42
Townsend, Claire, Symposium 49
Trahan, Lisa H., Paper Session 31
Treiber, Frank, Symposium 9
Trevino, Kelly M., Symposium 25
Tripp, Mary K., Paper Session 34
Trivedi, Ranak, Paper Session 30
Troiano, Richard P., Symposium 53
Trudeau, Kimberlee, Paper Session 46
Truong, Young, Paper Session 21
Tsoh, Janice Y., Paper Session 11, Paper Session 15
Tucker-Seeley, Reginald, Symposium 56
Turner, Monique M., Paper Session 48
Turner, Shairi, Symposium 57
Turner-McGrievy, Brie, Panel Discussion 15, Paper Session 41, Symposium 54
Turrisi, Rob, Paper Session 34

Presentation Author Index

2016 Annual Meeting Supplement

Tuttle, Michael, Paper Session 28
Tworek, Cindy, Panel Discussion 8
Tynan, William, Symposium 5

U

Ubhi, Harveen, Symposium 45
Uchendu, Uchenna, Symposium 75
Ulmer, Christi S., Panel Discussion 7
Umstatt Meyer, M. Renée, Symposium 69
Underwood, Willie, Paper Session 28
Underwood, III, Willie, Symposium 59
Urlaub, Diana, Symposium 63
Uronis, Hope, Symposium 32

V

Vadaparampil, Susan, Symposium 40
Vair, Christina L., Symposium 78
Valdivia, Rodrigo, Paper Session 16
Valenzuela, Carlos, Panel Discussion 6
Valera, Pamela, Symposium 23
Vallance, Jeff, Paper Session 31
Valle, Carmina G., Paper Session 48, Symposium 3
Valois, Robert F., Paper Session 43
Van Den Eeden, Stephen K., Paper Session 28
Van Horn, M. Lee, Paper Session 39
Vanable, Peter A., Paper Session 43
Vandell, Deborah Lowe., Paper Session 32
VanHarn, Karl J., Paper Session 9
vanOyen Witvliet, Charlotte, Paper Session 9
Vansaghi, Lisa, Symposium 18
VanVleet, Meredith, Symposium 26
Vargas, Sara, Paper Session 22
Ventuneac, Ana, Symposium 10
Vicuna, Belinda, Paper Session 49
Vidrine, Jennifer I., Paper Session 38
Vigen, Cheryl, Symposium 72
Vitolins, Mara, Symposium 19
Viverito, Kristen, Symposium 27
Voils, Corrine, Paper Session 44, Symposium 41
von Wagner, Christian, Paper Session 13
Vranceanu, Ana-Maria, Symposium 74
Vrinten, Charlotte, Paper Session 13
Vu, Milkie, Symposium 49

W

Wachholtz, Amy, Paper Session 17, Symposium 24
Wadman, Jean, Symposium 76
Waggoner, Kathryn K., Panel Discussion 26
Wallander, Jan, Paper Session 43
Wallen, Gwennyth R., Panel Discussion 16
Walsh, Karin S., Symposium 50
Walters, Scott, Paper Session 6, Paper Session 36
Wang, Catharine, Symposium 34, Symposium 40
Wang, Chenchen, Seminar 8
Wang, Jichuan, Symposium 26
Wang, Lin, Symposium 67
Wang, Min Qi, Paper Session 13
Wang, Zhu, Paper Session 23
Warburton, Darren, Symposium 38
Wardle, Jane, Paper Session 13
Ware, Catherine M., Panel Discussion 22, Paper Session 30

Waring, Molly, Symposium 12, Symposium 29, Symposium 54
Warmoth, Krystal, Symposium 42
Washburn, Isaac J., Paper Session 43
Washington, Armenta L., Paper Session 48
Wasser, Thomas, Paper Session 17
Waters, Andrew, Paper Session 30
Waters, Erika A., Symposium 34
Wearden, Alison J., Symposium 15
Webb, Karen, Symposium 71
Weber, Patricia, Seminar 2
Weber, Wendy, Panel Discussion 5
Weets, Ilse, Symposium 26
Weigner, Katie, Symposium 5
Weingart, Kimberly, Symposium 31
Weinger, Katie, Symposium 5
Weiss, Stephen M., Paper Session 18, Symposium 9
Weissman, Mark, Symposium 50
Welk, Greg, Paper Session 10
Welling, Joel, Paper Session 26
West, Robert, Symposium 45
Westbrook, Emily, Paper Session 15
Wethington, Elaine, Symposium 1
Wetter, David, Paper Session 38
Wheeler, Paris, Paper Session 31
Whelan, Fiona, Paper Session 36
Wheldon, Christopher, Seminar 13
Whitaker, Robert, Paper Session 9, Symposium 79
White, James M., Paper Session 19
White, Marney, Symposium 41
Whitehead, Nicole (Nicky), Paper Session 31
Whiteley, Jessica, Panel Discussion 15, Paper Session 3
Whitson, Heather, Symposium 4
Whitt Glover, Melicia, Symposium 69
Whittemore, Robin, Panel Discussion 18, Symposium 46, Symposium 72
Wickersham, Karen, Symposium 61
Wiebe, Deborah J., Paper Session 42, Symposium 76
Wilbur, JoEllen, Paper Session 16
Wilcox, Sara, Paper Session 41, Symposium 62
Wiley, James, Paper Session 23
Wilfond, Benjamin, Paper Session 48
Wilkens, Lynne, Paper Session 7
Wilkins, Megan, Paper Session 18
Wilkinson, Anna V., Paper Session 49
Williams, David, Paper Session 5, Paper Session 35, Symposium 45
Williams, Lana, Symposium 65
Williams, Natasha J., Paper Session 20
Williams, Ralph, Paper Session 13
Wilson, Dawn K., Paper Session 32, Paper Session 39, Seminar 13, Symposium 71
Wilson, Patrick M., Paper Session 25
Wing, Rena R., Paper Session 3
Winston, Ginger, Symposium 1
Winter, Sandra, Symposium 43, Symposium 80
Winters, Elizabeth, Paper Session 34
Wirth, Lorinette S., Paper Session 38
Wittbold, Kelley A., Paper Session 46
Witteman, Holly O., Paper Session 35
Wojcikicki, Thomas R., Paper Session 40
Wolfe, Brenda, Symposium 16

Wolfe, David, Symposium 51
Wolfe, Pam, Symposium 5
Wolin, Kate, Paper Session 39
Woltz, Patricia, Symposium 61
Wong, Chelsea, Symposium 62
Woodford, Natalie, Symposium 33
Woods-Giscombe, Cheryl L., Symposium 6
Wooldridge, Jennalee, Paper Session 24
Wooldridge, Jennalee S., Symposium 45
Wray, Jennifer, Symposium 78
Wren, Ana Vanessa, Paper Session 50
Wright, Alexis, Symposium 81
Wright, Bradley, Symposium 37
Wright, Julie, Paper Session 3
Wright, Lindsay, Paper Session 1
Wu, Linden, Symposium 57
Wyckoff, Emily, Paper Session 14
Wyman, Jean, Symposium 80
Wyrick, David, Paper Session 46

X

Xiao, Rui, Symposium 29
Xu, Xiaomeng (Mona), Panel Discussion 12

Y

Yancy, William S., Paper Session 44
Yanez, Betina, Paper Session 35
Yang, Lin, Paper Session 39
Yao, Christopher, Symposium 38
Ye, Zi, Symposium 38
Yerges-Armstrong, Laura, Symposium 44
Yeung, Nelson, Symposium 42
Ying, Jun, Symposium 27
You, Wen, Symposium 33
Youles, Bradley, Paper Session 14, Paper Session 22
Young, Alexander S., Paper Session 36
Young, Colleen, Paper Session 48
Young, Lucy, Symposium 42
Yu, Edgar, Paper Session 11, Paper Session 15

Z

Zafar, Yousuf, Symposium 32
Zarrett, Nicole, Paper Session 32
Zebrack, Brad, Paper Session 1
Zelikovsky, Nataliya, Symposium 76
Zeuren, Rebecca, Paper Session 28
Zhang, Fengqing, Paper Session 14
Zhang, Jianying, Paper Session 46
Zhang, Qianzi, Paper Session 32
Zhang, Zhe, Symposium 29
Zhao, Xiaoquan, Paper Session 2
Zheng, Yaguang, Paper Session 27
Zhou, Eric S., Panel Discussion 21
Zhu, Wenfei, Symposium 2
Ziedonis, Dougals, Paper Session 17
Zikmund-Fisher, Brian, Symposium 68
Zimet, Gregory, Paper Session 21
Zinar, Riley, Paper Session 15, Paper Session 28
Zoellner, Jamie M., Symposium 33
Zollinger, Terrell, Paper Session 21
Zullig, Leah, Symposium 4
Zulman, Donna, Symposium 4

Keyword Index

Abnormal sleep

A119, B163, Paper Session 42

Adherence

A103, A104, A105, B007, B018, B054, B061, B062, B063, B118, C051, C053, C059, C060, C062, C066, C067, C075, C097, C106, C123, C142, C146, C156, D008, D011, D041, D115, D187, D188, D189, N008, Paper Session 6, Paper Session 24, Paper Session 35, Paper Session 40, Paper Session 42, Paper Session 44, Seminar 7, Symposium 9

Adolescence

D064, Paper Session 42, Paper Session 43, Paper Session 46

Adolescents

A020, A021, A022, A027, A095, B078, B152, B175, C008, C029, C031, C032, C037, C157, C161, D026, D031, D032, D050, D163, N003, N006, N015, Paper Session 3, Paper Session 5, Paper Session 5, Paper Session 8, Paper Session 18, Paper Session 21, Paper Session 25, Paper Session 27, Paper Session 29, Paper Session 34, Paper Session 45, Paper Session 46, Symposium 39

Aging

A052, B103, B139, C009, C066, C090, C134, C175, D076, D125, D131, D155, Symposium 56

Alzheimer

Paper Session 49

Anger

B062, Paper Session 30

Anxiety

B025, B044, D062, D161, Paper Session 47

Assessment

C086, Paper Session 39, Symposium 30, Symposium 33

Asthma

C173, D180, Paper Session 35, Paper Session 47, Paper Session 50

Attitude(s)

A094, B060, B113, D107, Paper Session 33

Behavior Change

A054, A057, A066, A075, A076, A077, A091, A098, A099, A100, A101, A104,

A128, B033, B038, B048, B052, B074, B093, B095, B106, B109, B111, B121, B137, B182, C011, C087, C098, C120, C128, C129, C141, C150, D010, D080, D086, D093, D098, D099, D102, D140, D149, D158, D160, D177, D190, N012, Panel Discussion 1, Panel Discussion 5, Panel Discussion 11, Panel Discussion 13, Paper Session 6, Paper Session 7, Paper Session 14, Paper Session 15, Paper Session 16, Paper Session 19, Paper Session 21, Paper Session 27, Paper Session 38, Paper Session 40, Seminar 13, Seminar 15, Seminar 16, Seminar 3, Seminar 6, Symposium 1, Symposium 19, Symposium 48, Symposium 49, Symposium 64, Symposium 9

Beliefs

A081, B049, B073, B075, B108, B110, B132, C003, C021, C056, D037, D120, D136, D186, N014, Paper Session 13, Paper Session 44

Binge eating

A049, A068, B094, C113, D066, D167, Symposium 16

Built environment

D057, Paper Session 19, Paper Session 39

Cancer

A001, A003, A004, A006, A010, A011, A012, A014, A015, A016, A018, A019, A019a, A117, B001, B002, B003, B004, B005, B007, B008, B009, B012, B013, B014, B015, B016, B021, B022, B023, B024, B025, B026, B086, B098, B109, B133, C003, C004, C005, C006, C009, C010, C013, C014, C015, C016, C018, C019, C020, C022, C023, C024, C025, C026, C031, C105, C139, C152, C156, C178, D001, D002, D003, D004, D006, D007, D008, D011, D014, D015, D016, D017, D019, D020, D021, D022, D023, D024, D040, D046, D111, D129, D151, D162, D165, D186, Panel Discussion 8, Paper Session 1, Paper Session 5, Paper Session 13, Paper Session 15, Paper Session 21, Paper Session 28, Paper Session 31, Paper Session 35, Paper Session 38, Paper Session 45, Paper Session 48, Paper Session 49, Paper Session 50, Symposium 24, Symposium 25, Symposium 3, Symposium 39, Symposium 42, Symposium 59, Symposium 66,

Symposium 7, Symposium 77, Symposium 81

Cancer screening

A012, B007, B014, B024, C003, C006, C014, C023, C152, D021, D046, D162, Paper Session 13, Paper Session 13, Paper Session 15

Cancer survivorship

A001, A004, A014, A015, A016, A018, A019, A117, B001, B009, B013, B015, B023, B026, B086, B098, C005, C009, C013, C016, C020, C025, C026, C105, C139, D001, D003, D006, D015, D020, D022, Paper Session 1, Paper Session 31, Symposium 3, Symposium 39, Symposium 42

Cardiovascular disease

B028, B032, B034, B035, B036, B037, B040, B128, Paper Session 6, Paper Session 27, Paper Session 30, Paper Session 30, Paper Session 36, Symposium 65

Caregiving

A002, B019, D150, D156, N001, Paper Session 37, Paper Session 37, Symposium 25

CBT

A035, C061, D093, Paper Session 12

Cessation

D177, Paper Session 48

Children

A026, A048, A051, A059, A084, A097, B044, B046, B047, B049, B050, B051, B077, B087, B089, B116, B142, C030, C034, C036, C127, C130, D134, Paper Session 8, Paper Session 34, Paper Session 41, Symposium 71, Symposium 76

Chronic Disease

A032, B045, B050, B072, B112, C138, C147, D095, N018, Paper Session 30, Seminar 8, Symposium 11, Symposium 27, Symposium 51, Symposium 55

Chronic illness

A024, B067, C035, C082, D027, D058, D121, Paper Session 42

Clinical applications

A007, C041, C088, Seminar 3, Symposium 16

Co-morbidities

B090, B166, C075, Symposium 4, Symposium 5, Symposium 56

Cognitive factors

A023, A085, A115, B009, B042, B100, C038, C123, C140, C163, D133, D142, D144, D159, Paper Session 33, Paper Session 42

Community intervention

B065, B123, B173, C044, D058, D089, D136, N018, N030, Paper Session 16, Paper Session 38, Symposium 71, Symposium 72, Symposium 79

Complementary and alternative Medicine

B159, B168, C040, C048, C071, Paper Session 16, Paper Session 23, Symposium 31, Symposium 58

Coping

B012, C025, C177, D009, D022, D061, D069, D070, D128, D138, Paper Session 12, Paper Session 42, Symposium 57

Couple-focused

B107, B145, B148, B157, C084, C085, D035, Paper Session 22, Symposium 32

Culture

B031, C070, D034, D035, Paper Session 29

Decision making

A007, C114, D012, D021, D025, D037, D038, D040, D045, D046, D047, D162, D164, D165, D168, N024, Panel Discussion 21, Paper Session 14, Paper Session 28, Paper Session 33, Paper Session 48, Symposium 17, Symposium 68

Depression

A060, A086, B010, B064, B069, B153, C007, C057, C070, D015, D073, D076, D127, D52, N015, N027, Paper Session 6, Paper Session 18, Paper Session 23, Paper Session 25, Paper Session 47

Diabetes

B034, C037, C048, C049, C051, C054, C055, C099, D048, D049, D051, D053, D055, D056, D060, D068, D52, N007, Paper Session 24, Paper Session 42, Symposium 26, Symposium 46, Symposium 5

2016 Annual Meeting Supplement

Keyword Index

Disparities

A004, A055, A129, B017, B026, B066, B101, B108, B142, B158, C001, C010, C045, C069, C093, C105, C122, C133, D017, D105, D132, Panel Discussion 6, Panel Discussion 10, Panel Discussion 20, Paper Session 11, Paper Session 13, Paper Session 20, Paper Session 21, Paper Session 35, Paper Session 43, Paper Session 49, Symposium 14, Symposium 6, Symposium 69, Symposium 75, Symposium 8

Dissemination

A029, B173, C116, N026, Paper Session 18, Symposium 63

Diversity

D147, Symposium 59

e-Health

A009, A015, A019, A058, A103, B020, B033, B099, C011, C050, C091, C099, C142, C145, D116, D145, D148, Panel Discussion 3, Panel Discussion 18, Paper Session 3, Paper Session 7, Paper Session 15, Paper Session 17, Paper Session 20, Paper Session 24, Paper Session 48, Symposium 20

Eating behaviors

A036, A066, B042, B075, B160, C043, C115, C126, C127, D053, D078, D079, D082, D085, N009, N016, Paper Session 3, Paper Session 4, Paper Session 9, Paper Session 10, Paper Session 50

Effectiveness

Paper Session 29

Emotions

B029, B163, C076, C164, D071, Paper Session 4, Paper Session 50, Symposium 17

Environment

A088, B081, B115, B120, B165, B182, C102, C115, D028, D057, D063, D078, D146, D157, Paper Session 5, Paper Session 19, Paper Session 32, Paper Session 38, Paper Session 39, Paper Session 46, Symposium 13

Ethical Issues

D044, Panel Discussion 9, Panel Discussion 27, Seminar 17

Ethnic differences

B136, B161, C109, Paper Session 20, Symposium 76

Evidence based

A029, A031, A033, A034, Panel Discussion 25

Exercise

A018, A062, A063, A092, A093, A124, B113, B127, B133, C058, C131, C148, D133, D152, N027, Paper Session 16, Paper Session 39, Paper Session 40

Family

A017, A031, A050, A112, B051, B096, C026, C050, C052, D059, Paper Session 24, Paper Session 41, Symposium 26

Gender

A078, B085, C081, C118, Paper Session 21, Paper Session 44

Genetics

A006, D012, D067, Paper Session 39, Paper Session 48, Paper Session 49, Symposium 34, Symposium 40, Symposium 44

Growth

Paper Session 27

Headache

D120, D121, Paper Session 17

Health

A009, A010, A015, A019, A020, A038, A041, A047, A054, A055, A057, A058, A064, A065, A066, A075, A080, A081, A084, A098, A101, A103, A107, A109, A111, A118, A119, A125, A128, A131, B002, B013, B020, B026, B033, B038, B040, B043, B048, B049, B066, B068, B071, B073, B074, B079, B084, B099, B101, B104, B108, B109, B110, B114, B124, B126, B127, B134, B135, B137, B146, B149, B150, B154, B155, B157, B158, B160, B171, B181, B183, C001, C002, C003, C006, C010, C011, C021, C022, C027, C028, C034, C039, C045, C050, C056, C058, C069, C074, C077, C078, C079, C080, C082, C087, C089, C091, C094, C096, C099, C100, C102, C109, C117, C122, C131, C133, C141, C142, C143,

C145, C147, C148, C149, C154, C158, C167, D010, D013, D017, D023, D024, D026, D029, D032, D033, D036, D037, D039, D042, D043, D044, D047, D049, D054, D056, D063, D064, D067, D075, D080, D082, D083, D086, D092, D093, D096, D099, D102, D105, D107, D110, D116, D120, D124, D129, D135, D136, D137, D138, D145, D148, D149, D152, D153, D158, D160, D171, D173, D174, D177, D181, D190, N002, N004, N012, N014, N021, N022, N023, N024, N028, Panel Discussion 1, Panel Discussion 3, Panel Discussion 6, Panel Discussion 7, Panel Discussion 10, Panel Discussion 11, Panel Discussion 13, Panel Discussion 16, Panel Discussion 17, Panel Discussion 18, Panel Discussion 20, Panel Discussion 21, Panel Discussion 23, Paper Session 3, Paper Session 5, Paper Session 6, Paper Session 7, Paper Session 8, Paper Session 9, Paper Session 10, Paper Session 13, Paper Session 14, Paper Session 15, Paper Session 16, Paper Session 17, Paper Session 19, Paper Session 20, Paper Session 21, Paper Session 22, Paper Session 24, Paper Session 25, Paper Session 29, Paper Session 30, Paper Session 32, Paper Session 33, Paper Session 36, Paper Session 38, Paper Session 40, Paper Session 41, Paper Session 43, Paper Session 45, Paper Session 48, Paper Session 49, Paper Session 50, Seminar 1, Seminar 13, Seminar 16, Seminar 17, Seminar 4, Seminar 6, Symposium 11, Symposium 13, Symposium 19, Symposium 2, Symposium 20, Symposium 21, Symposium 22, Symposium 23, Symposium 27, Symposium 28, Symposium 35, Symposium 37, Symposium 40, Symposium 47, Symposium 50, Symposium 60, Symposium 63, Symposium 64, Symposium 65, Symposium 68, Symposium 69, Symposium 7, Symposium 70, Symposium 78, Symposium 8

Health behavior change

A054, A057, A066, A075, A098, A101, A128, B033, B038, B048, B074, B109, C011, C087, C141, D010, D080, D086, D093, D099, D102, D149, D158, D160, D177, D190, N012, Panel Discussion 13,

Paper Session 6, Paper Session 7, Paper Session 14, Paper Session 40, Seminar 13, Seminar 16, Seminar 6, Symposium 19, Symposium 64

Health behaviors

A010, A064, A081, B013, B071, B074, B079, B126, B127, B146, B160, C080, C117, C122, C143, C167, D026, D043, D138, N002, N021, N022, Panel Discussion 1, Panel Discussion 11, Paper Session 10, Paper Session 19, Paper Session 21, Paper Session 33, Paper Session 41, Symposium 13, Symposium 22, Symposium 37, Symposium 60, Symposium 7

Health beliefs

A081, B049, B073, B110, C003, C021, C056, D037, D120, D136, N014, Paper Session 13

Health communication

A009, A038, A058, B002, B104, B154, B155, C002, C006, C100, D013, D032, D033, D039, D044, D047, D054, D107, D158, D160, D171, D173, D174, N024, Panel Discussion 6, Paper Session 29, Paper Session 45, Paper Session 48, Paper Session 49, Symposium 40, Symposium 68

Health disparities

A055, B026, B066, B101, B108, B158, C001, C010, C045, C069, C122, C133, D017, D105, Panel Discussion 10, Panel Discussion 20, Paper Session 20, Paper Session 43, Symposium 69, Symposium 8

Health education

B040, C109, C147, D049, D056, D152, Paper Session 45, Seminar 1

Health outcomes

B135, B181, C094, D092, Panel Discussion 17, Paper Session 30

Health policy

A119, N028, Paper Session 5, Paper Session 32

Health promotion

A080, A107, A111, B048, B114, B134, C027, C034, C089, C096, C102, C158, D029, D135, N004, Panel Discussion 7, Paper Session 8, Paper Session 9, Paper Session 20, Paper Session 22, Paper Session 38, Symposium 11

Keyword Index

2016 Annual Meeting Supplement

Hispanic

B079, C002, C039, C057, Paper Session 16

HIV

A127, B053, B054, B055, B056, B057, B058, B059, B060, B063, C059, C060, C061, C062, C063, C064, C067, C068, N008, Paper Session 7, Paper Session 18, Paper Session 35, Paper Session 43, Symposium 10

Informatics

Panel Discussion 17, Panel Discussion 25, Symposium 77

Interdisciplinary

A030, A032, Panel Discussion 22, Panel Discussion 24, Seminar 2

Internet

C137, C166, D101, Paper Session 7

Intervention

A045, A100, A116, B010, B011, B065, B083, B092, B123, B173, C017, C020, C044, C046, C047, C065, C089, D058, D070, D089, D098, D099, D136, N012, N018, N019, N029, N030, Paper Session 7, Paper Session 16, Paper Session 34, Paper Session 38, Paper Session 40, Paper Session 44, Paper Session 45, Paper Session 46, Seminar 14, Symposium 2, Symposium 36, Symposium 45, Symposium 71, Symposium 72, Symposium 75, Symposium 79

Knowledge integration

Panel Discussion 2

Latino

A019a, B093, C019, C027, C028, C080, D066, D100, D130, D167, Panel Discussion 20, Paper Session 43

Longitudinal research

C055, Paper Session 2, Paper Session 13, Paper Session 41, Paper Session 43

Low-income

A057, C073, C110, N010, N030, Panel Discussion 13, Panel Discussion 27, Paper Session 12, Paper Session 13, Paper Session 23, Paper Session 25, Paper Session 36, Symposium 42

Low-income and minority groups

C073, N010, N030, Panel Discussion 27, Paper Session 12, Paper Session

13, Paper Session 23, Paper Session 23, Paper Session 36, Symposium 42

Low-income groups

Panel Discussion 13

Managed Care

B176, Panel Discussion 26

Measurement

A039, A041, A082, B070, B111, B165, C074, C090, C092, C094, C141, D009, D126, Paper Session 1, Paper Session 10, Paper Session 19, Symposium 12, Symposium 33

Meditation

D074, Paper Session 50

Mental health

A041, A065, A084, A109, B043, B066, B071, B157, C022, C039, C058, C074, C077, C078, C079, C082, D024, D063, D064, D067, D075, D181, Paper Session 9, Paper Session 16, Paper Session 25, Paper Session 36, Paper Session 50, Symposium 27, Symposium 50, Symposium 65, Symposium 78

Methodological issues

A039, B088, Paper Session 10, Symposium 72

Methodology

A037, C086, D087, D141, Paper Session 10, Paper Session 11, Paper Session 46, Seminar 11, Symposium 22, Symposium 36

Methods

A038, A040, A042, A043, A045, A096, B019, C087, C088, C093, D101, Panel Discussion 2, Panel Discussion 12, Seminar 13, Seminar 14, Seminar 7, Seminar 9, Symposium 12, Symposium 37, Symposium 61

Mindfulness

A116, B106, B143, B174, C043, C045, C107, D071, D072, N009, Panel Discussion 10, Paper Session 8, Paper Session 50, Seminar 16, Symposium 74

Mindfulness-Based Stress Reduction

C045, Seminar 16

Minority health

B150, B183, D023, D083, D137, D153, Paper Session 15, Paper Session 20,

Paper Session 25, Paper Session 32, Symposium 21, Symposium 23

Mobile phone

A048, B089, B102, B105, B126, B156, C008, C072, C121, C150, C160, D025, D178, Paper Session 10, Paper Session 36

Mood

Paper Session 47

Motivation

A090, A094, B052, B119, D080, D123, D135, Paper Session 22, Symposium 15

Multilevel intervention

Symposium 75

Multiple risk factors

A099, B110, C004, C064, C079, C124, Paper Session 14, Paper Session 25

Nutrition

A046, C098, C100, C101, C103, C104, C108, C110, C153, D031, D034, D081, D083, D084, D087, N011, Paper Session 19, Paper Session 32

Obesity

A016, A026, A046, A047, A049, A050, A051, A052, A053, A056, A059, A062, A063, A064, A067, A074, A112, A120, A122, B073, B077, B078, B080, B081, B087, B090, B091, B096, B164, C116, C119, C120, C124, C126, C130, C174, D060, D119, D169, N010, N014, N016, Panel Discussion 15, Paper Session 3, Paper Session 4, Paper Session 6, Paper Session 14, Paper Session 25, Paper Session 27, Paper Session 32, Paper Session 33, Paper Session 39, Paper Session 41, Paper Session 50, Symposium 1, Symposium 14, Symposium 35, Symposium 41, Symposium 70

Older adults

A089, B138, D089, D144, Panel Discussion 14, Symposium 62

Opioids

D163, Paper Session 17

Organ transplant

D185, D187, D190, Paper Session 7

Pain

A126, B057, C024, D072, D110, D111, D112, D113, D114, D115, D116, D117, D118, D119, N003, Paper Session 17, Paper Session 31, Seminar 10, Seminar 8, Symposium 41, Symposium 44

Parent-child transactions

A040, C108, C174, D028, D030, Paper Session 41

Physical activity

A008, A021, A082, A083, A086, A088, A089, A090, A092, A095, A096, A097, A098, A114, B005, B006, B036, B064, B072, B114, B115, B117, B118, B120, B121, B122, B123, B124, B125, B128, B129, B131, B132, B134, B136, B138, B139, B140, C016, C029, C092, C143, D055, D088, D113, D122, D123, D125, D126, D127, D128, D130, D131, D132, D134, D137, D139, D140, D141, D142, D146, D147, D148, D149, D150, D151, D153, D154, D155, D156, N002, N019, N020, N021, Panel Discussion 4, Paper Session 8, Paper Session 8, Paper Session 8, Paper Session 10, Paper Session 12, Paper Session 16, Paper Session 16, Paper Session 16, Paper Session 17, Paper Session 22, Paper Session 32, Paper Session 32, Paper Session 39, Paper Session 39, Paper Session 40, Paper Session 40, Paper Session 40, Paper Session 40, Paper Session 40, Symposium 18, Symposium 38, Symposium 43, Symposium 47, Symposium 48, Symposium 53, Symposium 62, Symposium 69, Symposium 80

Physical environment

B165, D146, Paper Session 32, Paper Session 39

Physician intervention

A100, Paper Session 45

Policy

A005, A119, B129, B179, C144, D045, D084, N028, Panel Discussion 8, Paper Session 5, Paper Session 19, Paper Session 21, Paper Session 32

Population health

A118, A131, B068, B101, C133, D036, D082, D096, N023, Symposium 35, Symposium 47, Symposium 63, Symposium 70

2016 Annual Meeting Supplement

Keyword Index

Pregnancy

B143, B144, B145, B147, D164, N022, N023, Paper Session 13, Paper Session 18, Paper Session 23, Symposium 58, Symposium 67

Prevention

A017, B046, B047, B065, B080, B099, B107, C023, C073, C168, D029, Panel Discussion 7, Paper Session 21, Paper Session 22, Paper Session 49, Symposium 19, Symposium 60

Primary care

A035, A105, A106, A108, A109, A110, A111, B151, B162, Panel Discussion 22, Panel Discussion 23, Panel Discussion 26, Paper Session 6, Paper Session 22, Paper Session 29, Seminar 10, Symposium 4, Symposium 55, Symposium 78

Psychoneuroendocrinology

B148, D091, D109, Paper Session 37

Psychoneuroimmunology

Paper Session 37, Paper Session 37

Psychophysiology

A067, B030, D041, Paper Session 4, Paper Session 17

Public health

A020, A125, B149, C028, C148, C154, D042, D124, D129, Panel Discussion 16, Seminar 1, Seminar 17, Seminar 4, Symposium 28

Quality of life

A014, A024, A030, B003, B016, B017, B023, B035, B067, B070, C035, C071, C078, C119, D001, D003, D006, D018, D027, D109, D157, N001, N005, N017, N032, Paper Session 1, Paper Session 1, Paper Session 17, Paper Session 18, Paper Session 24, Paper Session 31, Paper Session 50, Symposium 51

Race

C014, C044, C125, D013, D074, D103, Paper Session 14, Paper Session 29, Paper Session 31, Symposium 23

Randomized controlled trial

B015, C038, N017, N025, Paper Session 14

Religion/Spirituality

B172, N031, Paper Session 9, Paper Session 38, Symposium 49

Research methods

A038, B019, C087, C088, D101, Panel Discussion 2, Seminar 13, Seminar 14, Seminar 7, Symposium 12, Symposium 37, Symposium 61

Research to practice translation

A069, A108, B102, B170, C085, D043, D108, Panel Discussion 5, Panel Discussion 12, Seminar 15, Seminar 2, Seminar 5, Seminar 9, Symposium 18, Symposium 61

Resilience

B043, D065, D114, D185, Seminar 6

Risk

A006, A019a, A099, B004, B110, C004, C033, C049, C056, C064, C079, C083, C084, C124, C132, C159, C162, D105, D165, D166, D168, D170, D182, Paper Session 14, Paper Session 22, Paper Session 25, Paper Session 38, Paper Session 38, Paper Session 49, Symposium 34, Symposium 57

Risk factors

A099, B110, C004, C033, C064, C079, C083, C084, C124, C132, D105, D166, Paper Session 14, Paper Session 22, Paper Session 25, Symposium 34

Risk perception

A006, A019a, B004, C049, C056, C159, C162, D165, D170, D182, Paper Session 38

Screening

A012, A102, B007, B014, B024, C003, C006, C014, C021, C023, C152, D021, D042, D046, D162, N005, Paper Session 13, Paper Session 15, Paper Session 21, Symposium 50

Self Management

B018, B027, B045, B144, C036, C053, C145, D104, D188, D189, Paper Session 6, Paper Session 24, Paper Session 30

Self-efficacy

A042, A061, A087, B006, B038, B041, B112, C103, D106, Paper Session 3, Paper Session 24, Paper Session 27

Sexual abuse

N006, Paper Session 25

Sexual behavior

B150, B151, B152, B153, B154, B156, C065, Paper Session 43, Symposium 10

Sexual functioning

B011, B020, Symposium 81

Sexual orientation

A053, D065, D092, D184, Paper Session 2, Seminar 5

Sleep disorders

A003, A008, A113, A114, A115, A117, A118, A120, A121, A122, B059, B159, B161, B162, B164, D169, N025, Paper Session 20, Symposium 79

Smoking

A130, C154, C160, C161, D172, D174, D179, N026, N028, Paper Session 2, Paper Session 15, Paper Session 23, Paper Session 26, Symposium 15

Social stress

B091, D059, D061, D069, Paper Session 25, Symposium 21

Social support

A001, A002, A056, A087, A123, B037, B041, B069, B103, B131, B178, C007, C013, C041, C052, C054, C077, C111, C136, C138, D007, D036, D051, D094, D100, D104, D143, Paper Session 30, Paper Session 48, Symposium 28, Symposium 32, Symposium 52

Socioeconomic Status

C076, D081, D086, D097, Paper Session 41

Spirituality

B167, B168, B169, B170, B171, B172, C170, D020, N031, Paper Session 9, Paper Session 38, Symposium 31, Symposium 49

STDs

Panel Discussion 28

Stress

A034, B008, B021, B039, B091, C005, C042, C045, C046, C151, C168, C170, C171, C172, C173, C175, C177, C178, D002, D004, D050, D059, D061, D069, D117, N007, Panel Discussion 19, Paper Session 12, Paper Session 25, Seminar 16, Symposium 21, Symposium 52, Symposium 74

Substance abuse

A023, A126, A127, A130, A131, B061, B068, B175, B176, B177, B178, B180, B181, B183, C155, N031, Paper Session 17, Paper Session 46, Seminar 4

Sun safety

A005, A011, A083, C017, C032, D010, D166, Paper Session 5, Paper Session 34, Paper Session 49, Symposium 66

Surgery

C012, D112, Paper Session 29

Systems thinking

A028, A044, C176, Symposium 73

Technology

A033, A036, A037, A044, A070, A071, A072, A079, A085, A091, A106, A121, B022, B027, B082, B083, B104, B105, B116, B140, B177, C018, C030, C042, C072, C091, C095, C096, C112, C121, C146, C171, D014, D030, D033, D077, D106, D108, D143, D176, D183, Panel Discussion 3, Panel Discussion 9, Panel Discussion 14, Panel Discussion 15, Panel Discussion 18, Panel Discussion 28, Paper Session 2, Paper Session 3, Paper Session 6, Paper Session 7, Paper Session 15, Paper Session 26, Paper Session 29, Paper Session 36, Paper Session 37, Paper Session 40, Paper Session 43, Paper Session 45, Paper Session 46, Paper Session 48, Seminar 11, Seminar 12, Symposium 20, Symposium 29, Symposium 3, Symposium 30, Symposium 43, Symposium 46, Symposium 53, Symposium 54, Symposium 64, Symposium 8, Symposium 80

Tele-health

A015, A019, C142, C145, D116, Symposium 20

Theory

B014, B119, C095, D075, D124, D139, Panel Discussion 24, Paper Session 33, Paper Session 35, Symposium 38, Symposium 45

Tobacco control

C158, C162, C165, D170, D171, D172, D173, N029, Paper Session 2, Paper Session 11, Paper Session 15, Paper Session 26, Paper Session 33, Paper Session 38

Keyword Index

2016 Annual Meeting Supplement

Tobacco use

C104, C153, C155, C157, C159, C163, C164, C166, C167, D175, D176, D178, D180, D181, D182, D183, D184, Paper Session 2, Paper Session 11, Paper Session 12, Paper Session 22, Paper Session 26, Paper Session 47

Treatment

A013, B166, D019, D161, N013, Panel Discussion 19, Paper Session 20, Paper Session 28, Paper Session 44, Seminar 12, Symposium 24

Weight control

A025, A055, A074, A076, A079, A093, B001, B086, B097, B098, C117, C118, D077, N020, Paper Session 14, Paper Session 20, Paper Session 22, Paper Session 27, Paper Session 36, Paper Session 44, Symposium 73

Weight loss

A054, A065, A068, A069, A070, A071, A072, A073, A075, A077, A078, A101, B076, B082, B084, B085, B088, B092, B094, B095,

B097, B117, C097, C106, C111, C112, C113, C114, C125, C128, C129, D068, N013, Panel Discussion 4, Paper Session 3, Paper Session 14, Paper Session 23, Paper Session 27, Paper Session 38, Paper Session 41, Paper Session 44, Paper Session 48, Symposium 54

Women

A012, A102, B031, B032, B053, B056, B076, B146, B149, C012, C015, C033, C083, C107, C151, C152, D090, D103, D122, Paper

Session 4, Paper Session 5, Paper Session 12, Paper Session 13, Paper Session 22, Paper Session 23, Paper Session 25, Paper Session 39, Symposium 29, Symposium 6, Symposium 67

Worksite health

A080, B084, B137, C131, Panel Discussion 21, Paper Session 7, Symposium 2



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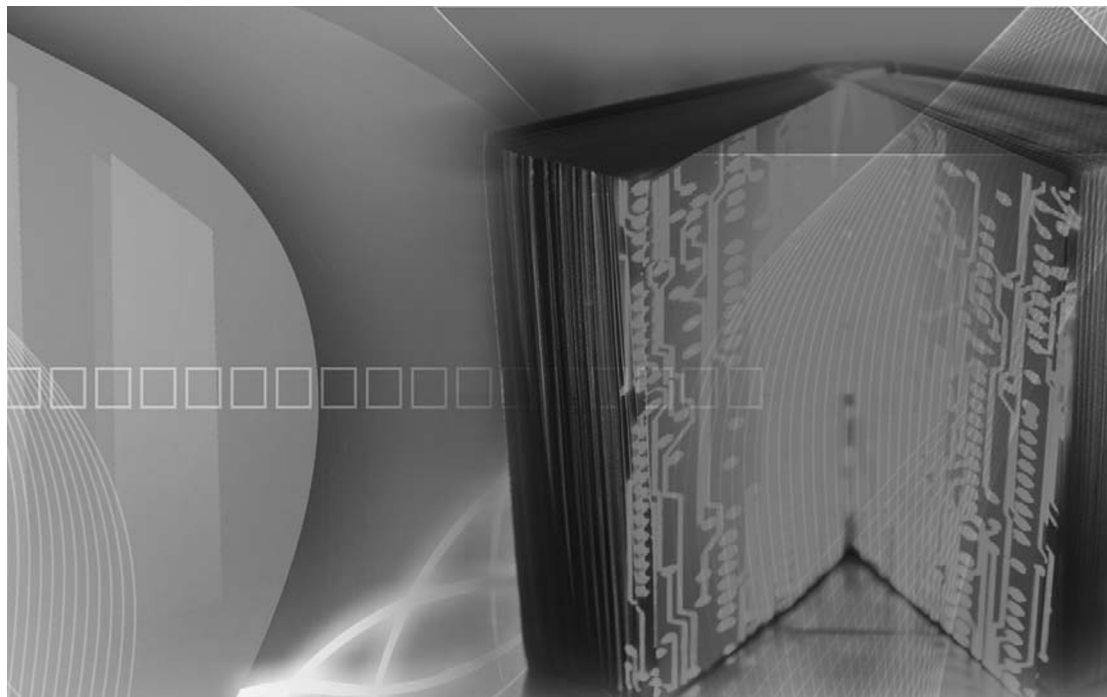
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