

IMMEDIATE EFFECTS OF BLOOD GLUCOSE ON WORKING MEMORY PERFORMANCE

Erin A. Olson, MS, Eric Drollette, BS, Lauren Raine, BS, Charles Hillman, PhD and Edward McAuley, PhD

Kinesiology and Community Health, University of Illinois Urbana Champaign, Urbana, IL.

Blood glucose (BG) dysregulation is associated with cognitive impairment on a range of domains including working memory. Chronic hyperglycemia contributes to structural pathologies and impaired function. As BG is a primary fuel source, hypoglycemic episodes adversely affect cognition. Less is known about short-term effects of hyperglycemia on cognitive function. The purpose of this study was to examine the acute effect of BG on cognition, specifically working memory, during a single testing period.

Cognitive testing was administered immediately following a mid-day BG measurement in a sample of older adults ($n=60$, $M_{age}=61\pm7.9$) with ($n=29$) and without ($n=31$) type 2 diabetes. The NBack task, with three conditions, measured working memory. In the zero-back condition, participants identified the current shape. Subsequently, they identified whether the current shape was the same or different from the previous shape (one-back) or two shapes ago (two-back). Reaction time (RT) and response accuracy were measured. A repeated measures analysis of variance (3×2) was used to examine the influence of BG on performance over the testing time period. BG was dichotomized into "normal" (70-130mg/dL) and "high" (>130 mg/dL) categories for a non-fasting state. Diabetes status and demographics were used as covariates.

Analyses revealed that hyperglycemic individuals performed worse on zero- ($p<.01$, $d=.76$), one- ($p<.05$, $d=.84$), and two-back accuracy ($p<.05$, $d=.75$), but did not differ on RT. In addition to a between subjects effect of BG on Nback performance, an interaction between accuracy and BG emerged [$F(2, 43)=3.516$, $p<.05$, $\eta^2=.141$] where individuals with initially high BG experienced a steeper decline in Nback accuracy. None of the covariates were significant.

Pre-testing BG level, while accounting for diabetes status, affected the decline in working memory accuracy. These data suggest that acute hyperglycemia contributes to cognitive impairments beyond those associated with diabetes status. High BG may influence individual ability to sustain adequate memory function.

CORRESPONDING AUTHOR: Erin A. Olson, MS, Kinesiology and Community Health, University of Illinois Urbana Champaign, Urbana, IL, 61801; olson29@illinois.edu

CHANGE IN HEALTH LITERACY OF ADULTS IN A WEIGHT LOSS TREATMENT TRIAL

Meghan Mattos, MSN,¹ Lei Ye, ?,¹ Susan M. Sereika, PhD,^{1,3} Edwin Music, MSIS, MBA,¹ Cynthia Danford, PhD,¹ Yaguang Zheng, MSN,¹ Chris C. Imes, PhD¹ and Lora E. Burke, PhD, MPH^{1,2}

¹School of Nursing, University of Pittsburgh, Pittsburgh, PA; ²School of Public Health, University of Pittsburgh, Pittsburgh, PA and ³School of Medicine, University of Pittsburgh, Pittsburgh, PA.

Low health literacy can interfere with the development of healthy lifestyle habits that promote energy balance and prevention of diet-related diseases. The aim of this secondary analysis was to determine if there was a change in health literacy in two cohorts of adults (N=62) over the course of the SELF trial that included an 18-month behavioral weight loss intervention. All participants received nutritional education through written materials and in-person group sessions. The Newest Vital Sign, a 6-item questionnaire based on reading a food label, was used at baseline and 18 months. The six questions provided three sub-scores (prose literacy, numeracy, and document literacy) and a total score as an overall indicator of health literacy. Wilcoxon signed rank test was used to analyze the change in literacy. The total sample (N=130) completed the questionnaire at baseline, but only two cohorts completed the questionnaire at 18 months (N=62). The sample was, on average, 53.7±9.9 years old, mostly female (80.6%), and 83.9% White; 72.1% had an income greater than \$50,000/year and 16.1±3.1 years of education. Mean BMI at baseline was 33.2±3.5 kg/m². Scores reflected adequate health literacy in the majority of participants (87%) at baseline. Eight participants reflected limited literacy at baseline, and the median improvement in score was 1.0 (p=.03) at 18 months. Participants with adequate literacy at baseline (N=54) reflected a median change of 0 (p=.36) at 18 months. Although most participants had adequate health literacy for reading a food label, those who demonstrated limited literacy may benefit from additional attention to assist them in this practical and necessary exercise to improve dietary habits. Health literacy assessment may identify at-risk individuals who can use tailored education to assist them in developing label-reading skills that support the development of healthy eating habits.

CORRESPONDING AUTHOR: Meghan Mattos, MSN, University of Pittsburgh, Pittsburgh, PA, 15261; mkm65@pitt.edu

CHANGES IN HEALTH BELIEFS FROM A CHURCH-BASED OBESITY INTERVENTION

Diane Martinez, MPH, Monique Turner, PhD, MA, Kanako Kashima, BA and Mandi Pratt-Chapman, MA

George Washington University, Washington, DC.

Faith-based programs can improve health by increasing knowledge and reducing risky behaviors associated with diet-related diseases such as obesity, heart disease, and cancer. The Biomedical/Obesity Reduction Trial (BMORE) was translated within three faith-based organizations to improve health in overweight and obese participants. This study assessed health belief changes from BMORE through a pre-/post-test focus group design. Six semi-structured groups were conducted at the beginning and conclusion of BMORE in Nashville, TN (n=20), Columbia, SC (n=20), and Hazard, KY (n=21). Churches in TN and SC were predominantly African American while KY participants were rural Appalachian Caucasians. The protocol was based on the Health Belief Model measuring perceived severity/susceptibility to obesity, efficacy levels for healthy behaviors, perceived barriers/benefits of change, and cues to action. Transcribed audio data and notes were analyzed by two independent coders using NVivo. Thematic content analysis and the repetition method revealed consistent themes with inter-coder reliabilities of 0.864 kappa for pre- and 0.936 kappa for post-intervention analyses. Findings revealed that BMORE made participants feel "empowered" after 12 weeks compared to initially feeling "out of control" with their weight. New themes on the benefits of being healthy include being a role model, improved emotional health and quality of life, and fewer doctors' appointments and medications. Participants appreciated having accountability partners and support in the group. Although participants initially voiced the challenge of cooking healthier at home, all three sites indicated increased self-efficacy in cooking healthy meals for themselves and their families. Long-term barriers voiced by participants included keeping the weight off and sticking with healthy habits. This study demonstrates the significant impact BMORE had on increasing perceived abilities to eat healthy and exercise to prevent and mitigate existing diet-related chronic diseases.

CORRESPONDING AUTHOR: Diane Martinez, MPH, George Washington University, Washington, DC, 20037; dmartinez15@gwu.edu

SMOKERS' AND NON-SMOKERS' BELIEFS ABOUT HARMFUL TOBACCO CONSTITUENTS: IMPLICATIONS FOR FDA COMMUNICATION EFFORTS

Marissa G. Hall, MSPH,¹ Kurt M. Ribisl, PhD^{1,2} and Noel T. Brewer, PhD^{1,2}

¹Department of Health Behavior, Gillings School of Global Public Health, University of North Carolina, Chapel Hill, NC and ²Lineberger Comprehensive Cancer Center, University of North Carolina, Chapel Hill, NC.

Objective

Most of the harms from smoking come from constituents that are naturally present in tobacco and tobacco smoke. Legislation requires the US Food and Drug Administration (FDA) to release information to the public about the constituents in tobacco and tobacco smoke. To inform these efforts, we sought to better understand how smokers and non-smokers think about harmful tobacco constituents.

Methods

In October 2012, 300 US adults ages 18-66 completed a cross-sectional internet survey. The questions focused on 20 harmful tobacco constituents that FDA has prioritized for communicating with the public.

Results

Most participants had heard of seven tobacco constituents (ammonia, arsenic, benzene, cadmium, carbon monoxide, formaldehyde, and nicotine), but few participants had heard of the others (e.g., acrolein). Few participants correctly understood that many constituents were naturally present in tobacco. Four constituents with highest awareness (ammonia, arsenic, carbon monoxide, and formaldehyde) elicited the most discouragement from smoking. Substances that respondents believed companies add to cigarette tobacco discouraged people from wanting to smoke more than substances that naturally occur in cigarette smoke ($p < .001$). Constituents elicited greater discouragement from wanting to smoke if respondents were non-smokers ($\beta = -.34$, $p < .01$), had negative images of smokers (prototypes) ($\beta = .19$, $p < .01$), believed constituents are added to tobacco ($\beta = .14$, $p < .01$), or were older ($\beta = .16$, $p < .01$).

Conclusions

Our study found low awareness of most tobacco constituents, with greater concern elicited by additives. Efforts to communicate health risks of tobacco constituents should consider focusing on ones that elicited the most discouragement from smoking.

CORRESPONDING AUTHOR: Marissa G. Hall, MSPH, Department of Health Behavior, Gillings School of Global Public Health, University of North Carolina, Chapel Hill, NC, 27599; mghall@unc.edu

CORRESPONDENCE OF EXERCISE AND DIET AMONG PROSTATE CANCER SURVIVORS AND PARTNERS

Shannon Myers Virtue, PsyD,¹ Sharon Manne, PhD,¹ Debby Kashy, PhD,² Talia Zaider, PhD,³ David Kissane, MD³ and Carolyn Heckman, PhD⁴

¹Rutgers Cancer Institute of New Jersey, New Brunswick, NJ; ²Michigan State University, Lansing, MI; ³Memorial Sloan Kettering Cancer Center, New York, NY and ⁴Fox Chase Cancer Center, Philadelphia, PA.

Exercise and diet behaviors are important for prostate cancer survivors. Partners may influence these behaviors. An indicator of partner influence is the degree of correspondence between partners, both positive (both engaging in the behavior) and negative (both not engaging). The study examined level of correspondence of couples' physical activity (PA) and fruit/vegetable consumption (FV). Eighty-eight localized prostate cancer survivors and their partners completed measures of PA, FV, discussions about exercise and diet, and perceived importance of partner's exercise and diet. Based on recommended PA guidelines (150 min. moderate or 75 min. vigorous activity/week), results indicated that 40% of patients and 31% of partners met guidelines. Correspondence was moderate ($r = .29$, $p = .009$). Among 18% of couples both partners met guidelines, 42% neither did, and 40% one partner met guidelines. Greater correspondence was associated with longer relationship ($r = -.19$, $p = .09$), and more frequent discussion of exercise and diet ($r = -.22$, $p = .049$). Based on recommended dietary guidelines (5 servings of fruits and vegetables/day), 80% of patients and 71% of partners met guidelines. Correspondence was high ($r = .40$, $p < .001$). Among 67% of couples both partners met guidelines, 6% neither did, and 26% one partner met guidelines. Greater correspondence was associated with greater perceived importance of partner's exercise and diet ($r = -.20$, $p = .09$). Lower correspondence was associated with longer relationship ($r = .20$, $p = .09$). For PA and FV, correspondence was not related to time from diagnosis, disease stage, patient BMI, or income. In summary, the majority of prostate cancer survivors and partners met recommended FV guidelines, but not PA guidelines. Relationship factors may play a role in partners' influence on exercise and diet behaviors. A couple-based approach to promoting healthy exercise and diet may be considered.

CORRESPONDING AUTHOR: Shannon Myers Virtue, PsyD, Rutgers Cancer Institute of New Jersey, New Brunswick, NJ, 08903; myerssb@cinj.rutgers.edu

EXERCISE-INDUCED ANTI-INFLAMMATORY EFFECT AND IMPROVED MUSCULAR FUNCTION AND FATIGUE AMONG OLDER PROSTATE CANCER PATIENTS

Karen Mustian, PhD, MPH, Michelle Janelins, PhD, Luke Peppone, PhD, Supriya Mohile, MD, Charles Kamen, PhD and Anita Peoples, PhD

University of Rochester Cancer Center, Rochester, NY.

Background: Radiation therapy (RT) and androgen deprivation therapy (ADT) result in chronic over-expression of pro-inflammatory cytokines, impaired muscular function, and cancer-related fatigue (CRF) among prostate cancer patients. We investigated the influence of an individually-tailored, home-based exercise intervention (EXCAP®), including progressive resistance and aerobic training, on inflammation, muscular function, and CRF.

Methods: In this phase II randomized clinical trial, older prostate cancer patients (N=58; mean age=67), receiving RT (47%) or ADT (53%), were randomized to 6 wks of EXCAP® (7 days/wk) or standard care (RT or ADT with no exercise). Inflammatory markers were assessed via multiplex. Muscular function (i.e., strength) was assessed using multiple repetition maximum testing (chest press and leg extension). CRF was assessed via valid self-report questionnaires (BFI, POMS-FI, MFSI). All assessments were pre- and post-intervention.

Results: ANCOVAs revealed significant increases in pro-inflammatory cytokines (IL-8 and IFN γ ; all $p < 0.05$), but not in anti-inflammatory markers, in the control group; whereas, there were significant increases in the anti-inflammatory cytokine receptor sTNFr1 ($p < 0.05$), with no significant increases in pro-inflammatory markers, in the exercise group. ANCOVAs revealed a trend toward differences between groups in muscular function (all $p < 0.10$): exercisers improved, while controls declined, in strength. ANCOVAs also revealed significant differences between groups in CRF on the BFI and POMS-FI (all $p < 0.05$), and a trend toward differences on the MFSI ($p < 0.10$) post-intervention: exercisers reported decreased CRF while controls reported increased CRF.

Conclusions: Results suggest exercise produces an anti-inflammatory effect and improves muscular function and CRF among older men with prostate cancer receiving RT and ADT. Future phase III RCTs are needed to confirm these findings. **Funding:** DOD W81XWH-07-1-0341, NCI K07CA120025, NCI 1R25CA102618.

CORRESPONDING AUTHOR: Karen Mustian, PhD, MPH, University of Rochester Medical Center, Rochester, NY, 14642; karen_mustian@urmc.rochester.edu

POSTTRAUMATIC STRESS DISORDER SYMPTOMS AND MIGRAINE HEADACHE: EXAMINING GENETIC CONFOUNDING IN MALE AND FEMALE TWINS

Sheeva Mostoufi, MS,^{1,2} Kathryn M. Godfrey, MS^{1,2} and Niloofar Afari, PhD²

¹SDSU/UCSD Joint Doctoral Program in Clinical Psychology, San Diego, CA and ²VA Center of Excellence for Stress and Mental Health and Department of Psychiatry, University of California, San Diego, San Diego, CA.

A growing body of literature has established a consistent association between posttraumatic stress disorder (PTSD) and migraine headache (MH) symptoms. Gender differences in the link between PTSD and MH symptoms have also been documented. However, the potential role of genetic and familial factors in the link between PTSD and MH is unclear. Therefore, the aims of this study were to: a) replicate the relationship between PTSD and MH symptoms in male and female twins from a large community-based twin registry; and b) examine genetic confounding in those associations. A total of 3,173 twin pairs (6,346 individuals) from the University of Washington Twin Registry who completed an initial survey were included. The Impact of Events scale and Migraine Screen Questionnaire were used to measure PTSD and MH symptoms. Twins had a mean age of 41 years; 70% were monozygotic (MZ), and 63% were female. Mixed effects linear regression adjusting for age was used to examine the relationship between PTSD and MH symptoms in overall models accounting for the non-independence of twins and then within-pair models adjusting for the confounding effects of genetic and familial factors.. The overall models found that greater PTSD symptoms were significantly related to greater MH symptoms in both men ($B = .018$, $p < .001$) and women ($B = .021$, $p < .001$). The within-pair associations remained significant for male (MZ $B = .026$, $p < .001$; dizygotic [DZ] $B = .027$, $p < .001$) and female (MZ $B = .032$, $p < .001$; DZ $B = .039$, $p < .001$) pairs. These findings suggest that the relationship between PTSD and MH symptoms is not confounded by genetic or shared familial factors in either gender, and may hint at causal dynamics. Future research is needed to determine environmental factors that may influence the relationship between PTSD and MH symptoms to understand the development of these frequently co-occurring conditions.

CORRESPONDING AUTHOR: Sheeva Mostoufi, MS, SDSU/UCSD Joint Doctoral Program in Clinical Psychology, San Diego, CA, 92103; sheeva.mostoufi@gmail.com

DEXAMETHASONE-SUPPRESSED SALIVARY CORTISOL AND COLD PAIN SENSITIVITY IN FEMALE TWINS

Kathryn M. Godfrey, MS,^{1,6} Eric Strachan, PhD,² Sheeva Mostoufi, MS,^{1,6} Leslie J. Crofford, MD,³ Dedra Buchwald, MD,⁴ Brian Poeschla, MD,² Annemarie Succop, BA⁴ and Niloofar Afari, PhD^{6,5}

¹Joint Doctoral Program in Clinical Psychology, San Diego State University/University of California, San Diego, La Jolla, CA; ²Department of Psychiatry and Behavioral Sciences, University of Washington, Seattle, WA; ³Department of Medicine, University of Kentucky, Lexington, KY; ⁴Departments of Epidemiology and Medicine, University of Washington, Seattle, WA; ⁵Department of Psychiatry, University of California, San Diego, CA and ⁶VA Center of Excellence for Stress and Mental Health, VA San Diego Healthcare System, San Diego, CA.

Dysregulation of the hypothalamic-pituitary-adrenal axis has been linked to chronic pain conditions. Studying pain sensitivity may inform the specific mechanisms involved in pain perception. The aims of this study were to: a) examine pain sensitivity during dexamethasone (dex) suppression and b) explore genetic confounding in those associations. The 99 community-based twin pairs had a mean age of 29 years; 75% were monozygotic (MZ). Salivary cortisol was collected across 4 days: after .25 mg dex; two-day baseline period; and after .5 mg dex. Pain ratings at threshold and tolerance (tol) measured pain sensitivity during a cold pressor test. Generalized estimating equations models adjusted for baseline pain rating, pain latency, and age were used. Cortisol response to .25 mg dex was not associated with pain sensitivity. After .5 mg dex, higher percent dex response in evening cortisol ($B = .01$, $p < .01$) was related to higher pain ratings at tol. The within-pair association was diminished in MZ pairs ($B = .005$, $p = .73$) but remained in dizygotic (DZ) pairs ($B = .02$, $p < .01$), suggesting genetic confounding. Lower baseline diurnal variation of cortisol was associated with higher tol pain ratings ($B = -9.23$, $p = .01$), which was influenced by genetics (MZ $B = .07$, $p = .99$; DZ $B = -24.53$, $p = .01$). Elucidating the dex suppressed cortisol and pain sensitivity relationship could contribute to understanding, treating, and preventing the development of chronic pain conditions.

CORRESPONDING AUTHOR: Kathryn M. Godfrey, MS, Joint Doctoral Program in Clinical Psychology, San Diego State University/University of California, San Diego, La Jolla, CA, 92093; kmgodfrey@ucsd.edu

PATHWAYS BETWEEN ACCULTURATION AND HEALTH BEHAVIORS AMONG LOW-INCOME HOUSING RESIDENTS: THE MEDIATING ROLE OF SOCIAL/CONTEXTUAL FACTORS

Caitlin E. Caspi, ScD,¹ Jennifer D. Allen, RN, MPH, ScD,^{2,3} May Yang, MPH,⁴ Sara Tamers, PhD, MPH,^{2,3} Anne Stoddard, ScD,⁴ Bryan Leyva, BA,⁵ Reginald Tucker-Seeley, ScD^{2,3} and Glorian Sorensen, PhD, MPH^{2,3}

¹University of Minnesota, Minneapolis, MN; ²Dana-Farber Cancer Institute, Boston, MA; ³Harvard School of Public Health, Boston, MA; ⁴New England Research Institute, Watertown, MA and ⁵National Cancer Institute, Bethesda, MD.

Objectives: Acculturation is thought to influence health behaviors, yet mechanisms of this relationship have not been fully explored. Our aim is to describe relationships between acculturation and health behaviors, and to evaluate the extent to which these relationships are mediated by social/contextual factors.

Methods: Residents of 20 low-income housing sites in the greater-Boston area were interviewed about acculturative characteristics, social/contextual factors, and health behaviors. A composite acculturation scale was developed using latent class analysis, resulting in four distinct acculturative groups (very low, low, moderate, and referent/U.S. born). Path analysis was used to examine interrelationships between acculturation, health behaviors, and social/contextual factors (material hardship, stress, social networks/support and discrimination).

Results: Of the 828 residents who responded, 69% were born outside of the US. Individuals in "very low" and "low" acculturative groups ate healthier diets (coefficients 0.6, $p = 0.004$; 0.7, $p = 0.01$, respectively). Less acculturated groups ("very low", "low", and "moderate") were less likely to smoke (coefficients -0.7, $p = 0.0006$; -0.5, $p = 0.0001$; -0.02, $p = 0.005$, respectively). Acculturation was indirectly associated with diet through its relationship with material hardship ("very low" and "low" coefficients 0.2, $p = 0.0009$; 0.02 $p = 0.0008$, respectively).

Conclusions: Findings suggest the need for interventions to preserve "traditional" health habits and prevent uptake of "mainstream" harmful behaviors among immigrant populations. Social/contextual factors (e.g. material hardship) may be possible mechanisms through which acculturation influences some health behaviors. Additional research is needed to explore such mediators in larger, population-based samples.

CORRESPONDING AUTHOR: Caitlin E. Caspi, ScD, University of Minnesota, Minneapolis, MN, 55406; cecaspi@umn.edu

ACCEPTABILITY AND FEASIBILITY OF A MOBILE-PHONE INTERVENTION TO PROMOTE SUN SAFE BEHAVIORS AMONGST HOLIDAYMAKERS: FINDINGS FROM THE INTERNAL PILOT OF THE MISKIN RANDOMIZED TRIAL

Angela M. Rodrigues, MSc in Health Psychology; MSc in Public Health, Falko F. Sniehotta, PhD, Mark A. Birch-Machin, PhD and Vera L. Araujo-Soares, PhD

Faculty of Medical Sciences, Newcastle University, Newcastle upon Tyne, United Kingdom.

Background: Intermittent UV-exposure is a risk factor for melanoma. Recreational sun-exposure (e.g. holiday settings) has been associated with melanoma prevalence. Effective, affordable and locally available interventions to promote sun-protective behaviors are needed. This study aims to assess the acceptability and feasibility of an evidence-informed and user-centered designed mobile-phone intervention (mISkin app) in reducing excess UV-exposure amongst holidaymakers.

Methods: Holidaymakers owning an Android smartphone and travelling for up to 2-weeks to sunny destinations participated in a 2 (mISkin vs. control) x 2 (SPF15 vs. SPF30) assessor-blinded randomized controlled trial (RCT) with internal pilot (trial registration: ISRCTN63943558). Main outcomes for this trial were assessed at baseline and shortly after holidays and included: mitochondrial DNA skin-damage (using skin swabs), sunscreen use (residual weight and movement patterns of provided bottles with built-in accelerometers) and self-reported sun safe behaviors. Main analyses were conducted on acceptability and feasibility of trial procedures as part of an internal pilot of the initial 45 participants.

Results: Out of 141 assessed for eligibility, 45 participants were randomized (76% female; mean-age = 35.7 (SD=9.8)). High participant retention, qualitative and quantitative feedback suggested good acceptance and feasibility of intervention and trial procedures. Baseline and follow up assessments (including skin swabs) were completed by all participants who provided consent to participate. Sunscreen weight was obtained for 42 participants (93%) and online questionnaires were completed by 86% (N=39) at baseline and 80% (N=36) at follow up.

Conclusions: The mISkin trial is the first RCT to evaluate a mobile-phone app designed to protect holidaymakers from excess UV-exposure. The intervention procedures were found to be acceptable and feasible and the full RCT is ongoing.

CORRESPONDING AUTHOR: Angela M. Rodrigues, MSc in Health Psychology; MSc in Public Health, Institute of Health and Society, Newcastle University, Newcastle upon Tyne, NE2 4AX; a.rodrigues@ncl.ac.uk

LIVING SITUATION IS ASSOCIATED WITH ANTIRETROVIRAL DOSE TIMING AMONG PERSONS WITH HIV AND BIPOLAR DISORDER

Jessica L. Montoya, BA,¹ Kaitlin Blackstone, MS,¹ Ben Gouaux, BS,² Amelia Poquette, BS,² Alexandra Rooney, BA,² Colin A. Depp, PhD,² Igor Grant, MD,² J. H. Atkinson, MD^{3,2} and David J. Moore, PhD²

¹SDSU/UCSD Joint Doctoral Program in Clinical Psychology, San Diego, CA; ²Psychiatry, University of California, San Diego, San Diego, CA and ³VA, San Diego Healthcare System, San Diego, CA.

Objective: Persons living with HIV and bipolar disorder (HIV/BD) evidence poor adherence to antiretroviral (ARV) therapy, which is associated with psychosocial variables such as environmental social support. The present study evaluated the efficacy of an individualized texting for adherence building (iTAB) intervention to improve ARV adherence in the context of living situation (e.g., living alone vs. with others).

Methods: ARV medications of 49 HIV/BD participants were tracked for 30 days using electronic Medication Event Monitoring Systems. Participants were randomized to iTAB (n=25) or an active comparison intervention (CTRL; n=24). Both groups received psychoeducation and a daily text message to track mood; the iTAB group also received personalized medication reminder texts. Dose timing (i.e., mean absolute value of time from planned dose time) was calculated.

Results: Demographic, psychiatric, neurocognitive, and living arrangement variables did not differ by treatment arm ($p > .05$). A multivariable model including treatment arm (iTAB vs. CTRL), current living situation (alone vs. with others), and the interaction between these factors accounted for 11% of the variance in ARV dose timing ($p < .05$). The interaction was significant ($p = .02$), such that iTAB participants who lived with others achieved better ARV dose timing ($M = 69$ mins from target dose time) compared to iTAB participants who lived alone ($M = 138$ mins) and CTRL participants who lived with others ($M = 184$ mins).

Conclusions: External social support appears to impact the efficacy of a text messaging intervention by additively improving ARV dose timing for HIV/BD persons living with others. Living with others without receiving reminder texts resulted in poorer ARV dose timing. Future texting interventions targeting those with less stable social support may be warranted in order to reach comparable therapeutic outcomes.

CORRESPONDING AUTHOR: Jessica L. Montoya, BA, SDSU/UCSD Joint Doctoral Program in Clinical Psychology, San Diego, CA, 92103; jmontoy@ucsd.edu

SOCIAL NETWORK CHARACTERISTICS ARE ASSOCIATED WITH ANTIRETROVIRAL TREATMENT USE AND CARE RETENTION AMONG AFRICAN AMERICANS WITH HIV

Laura Bogart, PhD,¹ Glenn J. Wagner, PhD,² Harold D. Green, PhD,² Matt G. Mutchler, PhD,^{3,4} Bryce W. McDavitt, MS,^{3,4} Marc PunKay, BS² and David J. Klein, MS¹

¹Boston Children's Hospital/Harvard Medical School, Boston, MA; ²RAND Corporation, Santa Monica, CA; ³AIDS Project Los Angeles, Los Angeles, CA and ⁴California State University at Dominguez Hills, Carson, CA.

African Americans with HIV are less likely to be taking antiretroviral treatment (ART) and to be retained in care than are Whites, potentially contributing to disparities in survival. Although individual-level factors such as lower income have been related to worse treatment behaviors, few studies have examined structural factors that may contribute to disparities. We examined whether social network and individual-level factors contribute to use of ART and care retention among 242 African Americans living with HIV (74% male). Participants listed up to 20 network member (alters) in their social network, indicated alters' relationship to them and to each other, and reported alters' socio-demographic and other characteristics (e.g., age, serostatus, whether they used substances together). Participants documented whether they were on ART and reported the number of HIV care visits in the past 6 months; retention was defined as at least two HIV primary care visits in the last 6 mos. Multivariate logistic regression results indicated that lower-income individuals were less likely to be on ART (OR=0.19, 95%CI=0.06-0.63, $p<.01$). Participants in social networks with greater percentages of alters who were drug partners were less likely to be on ART (OR=0.13, 95%CI=0.02-0.73, $p<.05$) and to be retained in care (OR=0.21, 95%CI=0.05-0.95, $p<.05$); participants in social networks with greater percentages of HIV-positive alters who were on ART (suggesting favorable network norms for ART use) were more likely to be taking ART themselves (OR=15.70, 95%CI=2.72-90.75, $p<.01$) and retained in care (OR=17.66, 95%CI=2.84-109.70, $p<.01$). Social networks can exert powerful positive and negative influences on individual-level treatment behaviors, beyond the effects of drug use and socio-demographic factors known to be associated with disparities.

CORRESPONDING AUTHOR: Laura Bogart, PhD, Division of General Pediatrics, Harvard Medical School/Boston Children's Hospital, Boston, MA;
laura.bogart@childrens.harvard.edu

USING EGOCENTRIC SOCIAL NETWORK MEASURES TO PREDICT SMOKING AMONG YOUNG ADULT BAR GOERS

Ashley Sanders-Jackson, PhD,¹ Sarah Olson, BA² and Pamela Ling, MPH, MD²

¹School of Medicine, Stanford University, Palo Alto, CA and ²Division of General Internal Medicine and Center for Tobacco Control Research and Education, University of California San Francisco, San Francisco, CA.

Background: Young adult bar goers smoke tobacco at disproportionately high rates, and quitting smoking by age 30 significantly reduces the risk of tobacco-related diseases. Social networks may be associated with tobacco use behavior in this population, which may inform tobacco cessation interventions. We hypothesized that peer smoking behavior would be more strongly associated with smoking than behavior among other social networks.

Data: Survey data (N=179) were collected in San Francisco, CA, San Diego, CA, Oklahoma City, OK, Nashville, TN, Tuscon, AZ and Los Angeles, CA. We compared responses on two separate social network questions, one of people with whom they "discuss important matters" and another with people they "socialize with outside of work" and associations with packs smoked per week.

Analysis and Results: A series of negative binomial regressions (NBR) with robust standard errors were completed with variables that improved model fit being retained. When controlling for site-based differences (non-significant) and age ($\beta=.004$, $p<.001$) the proportion of smokers in the "important matters" social network ($\beta=1.28$, $p<.0001$) was significantly associated with smoking more packs per week. Contrary to our hypothesis, the proportion of smokers in the "socialize outside of work" network was not significantly associated with smoking behavior, controlling for demographics. There was no significant effect of network density (the level of connectedness of people within the network) for either social network question on smoking behavior.

Conclusion: Proportion of smokers in the "important matters" network, which often included family, had a stronger influence on smoking behavior than the peer-only network. Future research on social networks and smoking among young adults should focus on the "important matters" network.

CORRESPONDING AUTHOR: Ashley Sanders-Jackson, PhD, School of Medicine, Stanford University, Palo Alto, CA, 94304; ashley.sanders-jackson@ucsf.edu

SOCIAL NETWORKS: DO THEY HELP OR HINDER WEIGHT LOSS?

Ginger Winston, MD MPH, Erica Caesar-Philips, MD MS and Mary Charlson, MD

Weill Cornell Medical College, New York, NY.

Background: Social networks have been shown to play a role in the spread of obesity however further data are needed regarding network structure and influence on weight loss behaviors. **Methods:** The Small Changes and Lasting Effects (SCALE) trial is an ongoing 1 year behavior change weight loss intervention among Black and Hispanic adults, BMI ≥ 25 kg/m², recruited in New York City. Participants set small change eating and physical activity goals. Participants identified social network members using the convoy model, a model of 3 concentric overlapping circles; inner circle - members the participant could not imagine life without, middle circle - members not as close, outer circle - least close members. Participants identified whether each member helped or hindered their eating and physical activity goals in SCALE. Data were analyzed using chi-square tests for proportions and students t-tests for continuous data. **Results:** There were 110 participants included in the analysis (mean age 52 years, 90% female, 51% Black, 59% Hispanic, mean baseline BMI 33.3 kg/m²). There were 1,253 social network members identified and the average network size was 11.4 members. Participants who reported at least one network member helped with their eating goals lost more weight compared to those with no helpful members (-4.68 lbs. vs. +2.61 lbs., $p=0.006$). When stratified by network circle, weight loss was greater among participants who indicated that at least one network member in their inner circle helped with eating goals compared to those with no helpful inner circle members (-4.55 lbs. vs. +0.22 lbs., $p=0.04$). There was a trend towards more weight loss among participants who identified at least one network member who helped with their physical activity goals compared to those with no helpful members (-4.29 lbs. vs. -1.61 lbs., $p=0.2$). **Conclusions:** In SCALE, there was greater weight loss among participants who had close social network members help them with their eating goals compared to those without helpful members. These preliminary data suggest that social networks can be helpful in weight loss efforts.

CORRESPONDING AUTHOR: Ginger Winston, MD MPH, Weill Cornell Medical College, New York, NY, 10065; giw9005@med.cornell.edu

WHAT PREDICTS INTENTION TO PURSUE HEALTH CAREERS IN HIGH-ACHIEVING LOW-INCOME MINORITY STUDENTS?

Bina Ali, MPH, Erin K. Tagai, MPH, Bradley O. Boekeloo, PhD and Min Qi Wang, PhD

Behavioral and Community Health, University of Maryland, College Park, College Park, MD.

Background: Research shows that increasing the percentage of ethnic and racial minorities in health professions may be beneficial for reducing the racial/ethnic health disparities in the United States. Despite a dire need to recruit minority students to enter health careers, there is a lack of research examining factors influencing minority high school students' intentions to pursue health careers. Therefore, the objective of the study was to examine the potential influences of personal interest in health, subjective norm toward pursuing health sciences in college, and social support in sciences from adults in high-achieving low-income minority students' intentions to pursue health careers. **Methods:** Utilizing baseline data from Climbing Up & Reaching Back (CURB), a project aimed at identifying factors influencing pursuit of health science careers, a cross-sectional analysis of high-achieving low-income minority 10th graders was performed ($n = 134$). **Results:** Multiple linear regression analysis indicated that subjective norm toward pursuing health sciences in college was significantly associated with intention to pursue a health career ($b = 0.72$, $t = 4.85$, $p < 0.001$), above and beyond demographics, personal interest in health, and social support in sciences. **Conclusions:** Findings suggest that perceived expectations from relevant individuals or groups is a significant indicator of intention to pursue health careers in high-achieving low-income minority students. While further research is needed to confirm the predictive nature of subjective norm in this population, the current findings provide valuable insight for the future development of interventions targeting recruitment of high-achieving minorities for health careers.

CORRESPONDING AUTHOR: Bina Ali, MPH, Behavioral and Community Health, University of Maryland, College Park, College Park, MD, 20742; binaali@umd.edu

A NALTREXONE OPIOID BLOCKADE ELIMINATES ASSOCIATIONS BETWEEN REWARD-BASED EATING DRIVE AND DAILY FOOD CRAVINGS

Ashley E. Mason, PhD,^{1,2} Barbara Laraia, PhD,² Nancy Adler, PhD,² Mary Dallman, PhD,² Rick Hecht, MD,¹ Eli Puterman, PhD,² Jennifer Daubenmier, PhD,¹ Cynthia de Groat, MA,² Kim Coleman-Phox, MPH,² Robert Lustig, MD² and Elissa Epel, PhD²

¹Osher Center for Integrative Medicine, UCSF, San Francisco, CA and ²Center for Health and Community, UCSF, San Francisco, CA.

Objectives: Cravings and overeating of palatable food are at least partially opioid-mediated. In rodents, naloxone, a mu opioid antagonist, blocks stress-induced overeating of palatable food. Some obese individuals report an excessive drive to eat characterized by a trio of (1) a lack of control over eating, (2) a lack of satiety, and (3) preoccupation with food. We used a naltrexone (NX) test to examine the effects of opioid blockade in women on food craving.

Method: At baseline, we assessed 45 overweight female participants' (1) food craving tendencies using the Modified Food Craving Inventory, and (2) experiences of a lack of control over eating, a lack of satiety, and preoccupation with food using the newly-developed Reward-Based Eating Drive (RED) questionnaire, on which greater scores may reflect dysregulated reward pathways that foster overeating. We assessed craving strength on five different days, five hours after participants took a placebo (PP) or naltrexone (NX) pill. All participants received PP and NX in the following (blinded) order: PP1, NX1 (25 mg), PP2, NX2 (50 mg), NX3 (50 mg).

Results: On the 2 PP days, regression analyses revealed that greater food craving tendencies (PP1 $B=0.59$, $p=.005$; PP2 $B=0.63$, $p=.002$) and greater RED scores (PP1 $B=0.59$, $p=.005$; PP2 $B=0.50$, $p=.022$) were associated with stronger daily food cravings. Results held after accounting for age, BMI, and perceived stress assessed at baseline. On the 3 NX days; however, baseline food craving tendencies and RED scores were unrelated to strength of daily cravings.

Conclusions: Women who reported more reward-based eating tended to experience stronger daily food cravings, but an opioid blockade (NX) disrupted this association. These findings hold implications for the basic understanding of food drive and the development of interventions for individuals who endorse more reward-based eating.

CORRESPONDING AUTHOR: Ashley E. Mason, PhD, Osher Center for Integrative Medicine, University of California - San Francisco, San Francisco, CA, 94115; ashley.mason@ucsf.edu

SOCIAL SUPPORT AND GRANDPARENT CAREGIVER HEALTH: ONE YEAR LONGITUDINAL FINDINGS FOR CUSTODIAL GRANDFAMILIES

Ashley N. Garner, MS, Heidemarie Blumenthal, PhD and Bert Hayslip, PhD

Psychology, University of North Texas, Denton, TX.

The physical health of custodial grandparents is a key factor impacting their adjustment and role satisfaction (Hayslip & Kaminiski, 2005). Concerns about their health are shared by grandparents and grandchildren alike, where declines in health may impair a grandparent's ability to manage the demands of raising a grandchild. Social support that is both timely and effective may mitigate such consequences, contributing to greater quality and perhaps greater quantity of life among grandparents raising their grandchildren. Accordingly, the primary aim of the current study was to investigate the relation between social support and health among custodial grandparents at two time points over the course of one year.

Participants were 86 custodial grandparents ($M_{age} = 59.35$, $SD = 7.87$, 83.3% women). Grandparents completed several measures at initial assessment and at one-year follow-up, including the Multidimensional Scale of Perceived Social Support, Short Form-36 General Health Survey, and the Center for Epidemiologic Studies Depression Scale. Prospective relations between social support and health were ascertained via cross-lagged panel analyses, and hierarchical regression analyses addressed the unique and interactive role of social support and health in relation to depression. Findings suggested that social support predicted health over time rather than vice versa. Regression analyses indicated that health predicted depression over time, where persons in better health reported less depression one year later. Further, the interaction of health and social support at time 1 predicted depression one year later, wherein those who lacked social support and who were in poorer health at time 1 also reported elevated depression symptoms one year later. The clinical implications suggest greater social support may lay the groundwork for better health, and such support may prevent the development of depression.

CORRESPONDING AUTHOR: Ashley N. Garner, MS, Psychology, University of North Texas, Haslet, TX, 76052; utlonghorngal@hotmail.com

SOCIAL DETERMINANTS OF BARRIERS TO HEALTHCARE UTILIZATION IN CHRONIC FATIGUE SYNDROME (CFS)

Lisa Oakley, MPH,^{1,2} Meredith Philyaw, BA^{1,2} and Jin-Mann S. Lin, PhD¹

¹Centers for Disease Control and Prevention, Atlanta, GA and ²Emory University, Atlanta, GA.

Background: Social determinants (SD) of health are increasingly recognized as important factors in public health research, particularly in community-based participatory research in reducing health disparities. However, few studies have examined the associations between SD and barriers to healthcare utilization in any illness, and none have included CFS. For complex and devastating illnesses like CFS, understanding what factors reduce barriers to healthcare utilization (HU) is pivotal in increasing access to needed treatment.

Methods: Data came from the 2007-2009 population-based study of CFS and unwellness in Georgia. The sample contained 750 participants classified into CFS, Insufficient Symptom/Fatigue (ISF), and Non-Fatigue (NF) with and without CFS-excluding conditions. We performed multiple logistic regressions on HU barriers, adjusting for socio-demographics, SD (social support (SS), sense of community (SOC)) and physical/mental unhealthy days.

Results: Those with ≥ 1 barrier to HU (34%) were more likely to be younger, uninsured, had significantly lower SOC, less social supporters, or lower satisfaction with SS, and more physical/mental unhealthy days. CFS participants were 5-times more likely to report HU barriers than those without fatigue (OR=5.76). Additionally, subjects with stronger SOC membership (OR=0.76) and higher SS satisfaction (OR=0.63) were less likely to report HU barriers. With the adjustment, SOC Membership and SS satisfaction remained significantly associated with HU barriers.

Conclusions: Social determinants are vital for health of fatigued patients, since they face additional challenges to seeking medical care. Community-level educational interventions and activities should be targeted at younger, uninsured, new residents to create ties to existing community support systems.

CORRESPONDING AUTHOR: Lisa Oakley, MPH, Centers for Disease Control and Prevention, Atlanta, GA, 30333; lisa.p.oakley@gmail.com

MINDFULNESS TRAINING VERSUS SLEEP HYGIENE FOR INSOMNIA SYMPTOMS IN OLDER ADULTS: A RANDOMIZED CONTROLLED COMPARISON TRIAL

David S. Black, PhD, MPH,^{1,2} Eileen Luders, PhD,³ Elizabeth Breen, PhD,² Richard Olmstead, PhD² and Michael Irwin, MD²

¹Preventive Medicine, University of Southern California, Los Angeles, CA; ²Psychiatry and Biobehavioral Sciences, University of California at Los Angeles, Los Angeles, CA and ³Neurology, University of California at Los Angeles, Los Angeles, CA.

Adequate sleep is vital to our survival, yet sleep problems grow common with age. About 50% of people aged 55+ years experience insomnia weekly. Given that sleep problems often go untreated in older adults, and untreated sleep problems increase the risk for morbidity and all-cause mortality, effective treatments for sleep problems are a priority to improve the health of our aging population. This randomized controlled comparison trial examined the relative efficacy of two 6-week interventions (mindfulness meditation training, MT vs. sleep hygiene, SH) on sleep, inflammatory markers, and brain morphology. Participants (N=49) were ages 55-90 (M=66.27, SD=7.43). Inclusion criteria: currently active insomnia symptoms, age in years > 55, and agreeing to randomization. Exclusion criteria: current inflammatory disorder, illness, or infection, current practice of meditation, depression, cognitive impairment, class II or greater obesity, current sleep apnea diagnosis, inability to speak English, and current smoking and/or substance dependence. The UCLA IRB approved study procedures. Measures included self-reported sleep, fatigue, and peripheral blood mononuclear cell levels of Nuclear Factor-kappa B. Brain images were acquired on a 1.5T Siemens Sonata scanner using an 8-channel head coil and a T1-weighted MPRAGE sequence. Forty-three (88%) participants completed the trial. ITT analyses showed that both groups reported improved sleep and NF-kB levels post-intervention. Sleep improvements in the MT condition were significantly greater than SH ($p<.02$). Fatigue symptoms improved only in the MT group ($p<.01$). Significant increases in brain gray matter density were observed in the MT group in the posterior cingulate cortex ($p<.05$). Findings have implications for broadening treatment options for older adults with insomnia symptoms, and novel neuroimmune mechanisms are elucidated.

CORRESPONDING AUTHOR: David S. Black, PhD, MPH, Preventive Medicine, University of Southern California, Los Angeles, CA, 90032; davidbla@usc.edu

NON-SUICIDAL SELF-INJURY IN SEXUAL MINORITY WOMEN: THE ROLE OF INTERNALIZED HOMOPHOBIA AND MINORITY STRESS

Angela G. Darosh, MA,¹ Teal Pedlow, PhD¹ and Elizabeth E. Lloyd-Richardson, PhD^{1,2}

¹Psychology, University of Massachusetts Dartmouth, North Dartmouth, MA and

²Psychiatry and Human Behavior, Brown Medical School, Providence, RI.

Research suggests that sexual minority women (SMW) are more likely than their heterosexual counterparts to experience suicidal ideation and suicide attempts. Little is known about the relationship between non-suicidal self-injury (NSSI), or the intentional harming of an individual's own body tissue without suicidal intent, and sexual orientation. This study aimed to (a) explore the rate of NSSI among SMW, the types of behaviors engaged in, as well as self-reported motives for NSSI; and to (b) examine the potential underlying mechanisms that place SMW at greater risk for engaging in NSSI. With the minority stress model serving as a theoretical lens, the current study hypothesized that internalized homophobia, discrimination, and victimization would be positively associated with NSSI in SMW. Online surveys were submitted by 141 SMW (aged 18 and older) across the United States (mean age= 24.6(7.7); 75.9% Caucasian; 57.4% lesbian, 31.2% bisexual, 11.3% other/not sure). Lifetime and past year engagement in NSSI was high, 64.40% and 53.20%, respectively. The average age first engaged in NSSI was 12.8(4.3). The most common NSSI behaviors endorsed included: picked at wound (30%), bit self (30%), hit self (23.6%), picked skin to draw blood (20%), and cut or carved skin (12.9%). The most common reasons for NSSI included: to stop bad feelings (64.2%), to relieve feeling "numb" or empty (62.4%), and to punish self (58.1%). With internalized homophobia, discrimination, and victimization as a three predictor model, logistic regression analyses were significant for both lifetime NSSI ($\chi^2(3) = 10.80, p = .013$) and past year NSSI ($\chi^2(3) = 14.26, p = .003$). Discussion of these findings will be placed in a broader social and mental health context and highlight the importance of addressing factors such as minority stress in mental health prevention and intervention efforts designed for SMW.

CORRESPONDING AUTHOR: Angela G. Darosh, MA, Psychology, University of Massachusetts Dartmouth, Pottsville, PA, 17901; adarosh@umassd.edu

CHANGES IN SYMPTOMS OF DEPRESSION AND WEIGHT LOSS IN A TECHNOLOGY-BASED INTERVENTION AMONG CHINESE ADULTS

Haijun Wang, PhD,^{1,2} Dori Steinberg, PhD,² Sandy Askew, MPH,² Erica Levine, MPH,² Pao-Hwa Lin, PhD,² Yanfang Wang, PhD,¹ Perry Foley, MPH² and Gary Bennett, PhD²

¹Peking University, Beijing, China and ²Duke University, Durham, NC.

Background: In developed countries, obesity is related to increased risk of several health complications, including depression. Previous studies in China, however, have shown inconsistent results. We analyzed data from a 6-month randomized controlled weight loss trial in China, to determine whether weight loss was associated with changes in symptoms of depression.

Methods: A total of 123 Chinese adults, aged 30-50, BMI > 24, who used a mobile phone were recruited in the two-arm randomized controlled trial. Participants randomized to the intervention comprising assignment of tailored behavior change goals, daily text messaging, 3 group sessions, and 5 coaching calls. Anthropometric measurements and questionnaire surveys were performed at baseline and 6 months. We assessed depression with the Patient Health Questionnaire (PHQ-9). A PHQ-9 score ≥ 5 and ≥ 10 represented mild and moderate depression, respectively.

Results: At baseline, the mean PHQ-9 score was not different between the intervention and control groups (Mean (SE): 5.08 (0.45) vs. 4.04 (0.38), $P=0.08$). The mean difference between baseline and 6-month was higher in the intervention group than that in control participants (Mean difference (SE): -1.57(0.37) vs. -0.16 (0.39), $P=0.01$). After adjusting for weight change, the significant difference in PHQ-9 score change between two groups did not exist ($P=0.09$). Weight loss and change in PHQ-9 scores was significantly correlated ($r=0.24$, $P=0.01$). For every 1 kg decrease in weight, the PHQ-9 score decreased by 0.24 units (SE: 0.10). In the intervention group, the proportion of participants with mild depression decreased significantly from baseline to 6 months (50.8% to 25.5%, $P=0.005$), that is the same for moderate depression (9.8% to 0, $P=0.005$).

Conclusion: The intervention had effects on depression that were mediated by weight loss. These results are helpful for developing interventions to synchronously control weight and promote mental health in Chinese population.

CORRESPONDING AUTHOR: Haijun Wang, PhD, Peking University, Beijing, 100191; whjun1@bjmu.edu.cn

WHO LOSES, MAINTAINS OR GAINS? PROFILES FROM A WEIGHT LOSS AND MAINTENANCE TRIAL

Amanda N. Szabo, PhD,^{1,2} Herrmann Stephen, PhD,^{1,2} Jaehoon Lee, PhD² and Joseph E. Donnelly, EdD^{1,2}

¹Kansas University Medical Center, Kansas City, KS and ²Univerisity of Kansas, Lawrence, KS.

National efforts, including Healthy People 2020, suggest losing weight through restricting caloric intake and increasing energy expenditure is necessary to improve the health of overweight and obese individuals. However, the behavioral profile of a successful dieter or successful weight loss maintainer over time is unclear. The purpose of the present analysis was to gain a better understanding of the behavioral profiles of individuals that are successful at losing and maintaining weight compared those that are unsuccessful. A latent class analysis was completed using completers (N=359; Age= 44.39; BMI 34.65±4.77; 66.6% female) of a 6 month (m) diet and 12m maintenance period. Results showed the emergence of three classes of participants (7%, 14%, and 22% weight loss during the diet phase) which showed distinct patterns of % weight change at three follow-up time points (6m, 12m and 18m). Successful dieters and maintainers (>14% weight loss) consistently attended more classes throughout the entire intervention (p<.001), consumed more fruits and vegetables (p=.032 from 0-6m, p<.001 from 6-12 m, and p<.001 from 12-18m), completed more minutes of physical activity (PA; p<.001) and took more steps (p<.001) throughout the entire intervention, compared to unsuccessful dieters. Furthermore, results from linear regression indicate that successful weight loss and maintenance classes (i.e., loss of greater than 14%) can be identified as early as 2m into an intervention based on weight change (p<.007), class attendance (p<.001) and shake and entrée consumption (p<.014). These findings suggest that individuals who are successful at losing weight, attend class regularly, consume more fruits and vegetables, do more PA and take more steps throughout the day. This provides early recognition of individuals who need additional or different intervention strategies to improve the outcome of weight loss and maintenance.

CORRESPONDING AUTHOR: Amanda N. Szabo, PhD, Kansas University Medical Center, Lawrence, KS, 66045; aszabo2@ku.edu

IS MORE BETTER? TEST OF A DOSE-RESPONSE RELATIONSHIP IN A PHYSICAL ACTIVITY INTERVENTION TAILORED TO POSTPARTUM WOMEN. HAWAII'S NA MIKIMIKI PROJECT

Erica Woekel, PhD,^{1,2} Cheryl L. Albright, PhD, MPH,² Lynne R. Wilkens, DrPH,² Kara Saiki, MPH² and Wendy J. Brown, PhD³

¹Castle Wellness and Lifestyle Center, Kailua, HI; ²University of Hawaii, Honolulu, HI and

³University of Queensland, St. Lucia, QLD, Australia.

After childbirth many women have significant reductions in purposeful bouts of Moderate-to-Vigorous Physical Activity (MVPA). Brief MVPA interventions with postpartum women have found MVPA increases; but few have: (1) included ethnic minorities, particularly Asian-Americans, Native Hawaiians & Pacific Islanders, (2) intervened over a year, or (3) tested the degree of association between dose/amount of intervention received by participants and their increase in MVPA. A 12 month randomized trial to increase MVPA in healthy, inactive moms (2-12 mo postpartum), compared a tailored, theoretically-derived MVPA intervention with personalized telephone counseling calls and a mom-centric website, to a comparison condition with standard online PA resources. Women (n =154; 31 \pm 5years; baby 5.5 \pm 3months; 80% minorities) in the tailored condition were scheduled to receive 17 calls with a health educator to problem solve MVPA barriers, set MVPA goals, and enlist social support for MVPA. The Active Australia Survey was used to measure MVPA. Over a year women in the tailored condition significantly increased MVPA more than Moms in the comparison condition (MVPA increase = 202 vs.110 min/wk, p =.03), with no significant differences by race, baseline BMI, or baby's age at baseline. A linear regression of MVPA among women in the tailored condition found that every minute of phone counseling the Moms received resulted in an increase in their MVPA of about one minute per week. Over the year, Moms received on average 13 (\pm 4.6) calls with about 10.6 (\pm 4.5) minutes per call, for a total average dose=151.9 (\pm 84.9) minutes. Busy new Moms were receptive to a telephone & web-based PA intervention. "Every minute counted" such that every minute spent on the telephone effectively and efficiently increased MVPA in this vulnerable population. Our results suggest future 12 mo. PA interventions include 150 minutes of dose/contacts.

CORRESPONDING AUTHOR: Cheryl L. Albright, PhD, MPH, School of Nursing and Dental Hygiene, University of Hawaii, Honolulu, HI, 96813; cherylal@hawaii.edu

A RANDOMIZED CONTROLLED TRIAL OF A CULTURALLY/LINGUISTICALLY ADAPTED, INDIVIDUALLY TAILORED PHYSICAL ACTIVITY INTERVENTION FOR LATINAS

Bess H. Marcus, PhD,¹ Shira I. Dunsiger, PhD,² Dori W. Pekmezi, PhD,³ Britta Larsen, PhD,¹ Beth C. Bock, PhD,² Kim Gans, PhD,² Becky Marquez, PhD,¹ Kathleen M. Morrow, PhD² and Peter Tilkemeier, MD¹

¹Family & Preventive Medicine, UC San Diego, La Jolla, CA; ²Brown University, Providence, RI and ³University of Alabama at Birmingham, Birmingham, AL.

Background: Latinas report high rates of physical inactivity and related chronic diseases and are in need of effective intervention.

Design: Randomized trial. Under-active Latinas (N=266) received Spanish language print materials through the mail for six months. Participants were randomly assigned to receive culturally adapted, computer expert system-tailored physical activity intervention materials vs. wellness materials. The main outcome was weekly minutes of physical activity reported by the 7-Day Physical Activity Recall interview, and objectively measured activity was included as a secondary outcome.

Results: Intervention participants (n=132) increased their self-reported MVPA from a mean of 1.87 min/week (SD=6.86) at baseline to 73.36 min/week (SD=89.73) at six months, whereas control participants (n=134) increased their MVPA from a mean of 3.02 min/week (SD=10.30) at baseline to 32.98 min/week (SD=82.82) at six months ($p<.05$). This difference was corroborated by accelerometer readings ($\rho=0.44$, $p<.01$). At six months, 11.36% of Intervention participants met national PA guidelines (>150 min/week of MVPA) vs. 5.97% of Control (adjusted OR=2.34, $p=0.07$). Moreover, these PA gains were maintained at 12 months. On average, intervention participants reported 95.79 min/week (SD=114.89) of MVPA at 12 months, compared to 43.42 min/week (SD=88.75) for control participants. At 12 months, 16.67% of Intervention participants met national PA guidelines vs. 5.97% of Controls (adjusted OR=3.14, $p=0.01$).

Discussion: Findings support the efficacy of this technology-based approach to promoting physical activity in Latinas. Future studies should evaluate the feasibility and appeal of other delivery channels such as the Internet and/or text messaging, which could further increase reach and cost-effectiveness and help eliminate health disparities in this population.

CORRESPONDING AUTHOR: Britta Larsen, PhD, Family & Preventive Medicine, UC San Diego, La Jolla, CA, 92093-0109; blarsen@ucsd.edu

A RANDOMIZED-CONTROLLED TRIAL OF SOCIAL NORMS TO INCREASE PHYSICAL ACTIVITY

Christopher M. Wally, PhD Candidate and Linda D. Cameron, PhD

Psychological Sciences, University of California, Merced, Merced, CA.

Objective: Physical activity confers numerous health benefits, yet few adults meet the recommended physical activity guidelines for basic health maintenance. This study sought to replicate and extend research using descriptive (what is commonly done) and injunctive (what is approved/disapproved) social norms to enact behavior change, in this case applied to physical activity.

Method: Young adults ($N = 105$) were randomly assigned to one of three social norm conditions: control, descriptive norm, or descriptive plus injunctive norm. All participants wore pedometers for eight weekdays and recorded step counts online each evening. The first two days served as a baseline. Following the baseline, the descriptive norm condition received feedback about the average number of steps taken by all participants the previous day. The descriptive plus injunctive norm condition received feedback about this average, as well as a sad face if below the average, or a happy face if above the average. The control condition received no feedback throughout the study.

Results: Repeated measures ANCOVAs revealed a significant interaction between social norm condition and time; $F(5.44, 274.51) = 2.80, p < .05, \eta^2_p = .05$. Simple effects analyses revealed that the descriptive plus injunctive norm condition increased steps over time; $F(2.61, 78.42) = 2.84, p < .05, \eta^2_p = .09$. In contrast, the control group decreased steps over time; $F(2.58, 74.94) = 3.01, p < .05, \eta^2_p = .09$. When split into groups based on being below or above the group mean at baseline, those initially below the mean in the descriptive plus injunctive norm condition increased steps over time; $F(2.05, 30.78) = 4.22, p = .02, \eta^2_p = .22$. No other changes occurred for below or above the mean splits.

Conclusion: The combined use of descriptive and injunctive social norms increases physical activity over an eight day period. These findings support further research testing this intervention strategy for a longer period of time; for different age, community, and clinical populations; and in combination with goal setting strategies.

CORRESPONDING AUTHOR: Christopher M. Wally, B S, Psychological Sciences, University of California, Merced, Merced, CA, 95340; chriswally87@gmail.com

DOES A HOME-BASED DVD-DELIVERED PHYSICAL ACTIVITY PROGRAM INCREASE SELF-ESTEEM IN OLDER ADULTS: AN RCT

Elizabeth Awick, BS, Thomas R. Wójcicki, PhD, Erin A. Olson, MS, Jason T. Fanning, MS, Hyondo D. Chung, MS, Krystle E. Zuniga, PhD, Michael Mackenzie, PhD, Rob W. Motl, PhD and Edward McAuley, PhD

University of Illinois Urbana-Champaign, Urbana, IL.

Previous studies have indicated that domain-specific self-esteem plays a valuable role in maintaining activities of daily living (ADL) in older adults. Although site-based physical activity interventions have proven to be successful in attenuating mental and physical health decline in this population, such methods can be costly and limiting to many. In the present study, we examined the effects of two DVD-delivered programs on self-esteem and its sub-domains. Low active, older adults ($n=307$) were randomly assigned to a 6-month, home based physical activity program consisting of either a DVD-delivered exercise condition focused on increasing flexibility, toning, and balance (FlexToBa) or an attentional control DVD condition focused on healthy aging. The Physical Self-Perception Profile (PSPP) was used to assess physical self-worth as well as the three sub-domains of self-esteem: physical condition, perception of attractive body, and perception of physical strength. Global self-esteem was measured using the Rosenberg Self-Esteem Scale (RSE). All items were assessed at the beginning and end of the 6-month DVD program. We found a significant group by time multivariate interaction [$F(4,300)=4.20$, $p=0.003$, $\eta^2=0.05$], which was explained by significant group by time effects for physical condition ($p=0.000$, $\eta^2=0.04$), and physical self-worth ($p=0.003$, $\eta^2=0.03$). Physical condition in the FlexToBa group increased significantly over the course of the program, whereas in the attentional control group it remained relatively stable. Physical self-worth increased twice as much in the FlexToBa group as it did in the control group. In conclusion, increases in sub-domains of self-esteem through a home-based exercise program are encouraging in light of the costs associated with aging in an elderly population. Our findings suggest the need for exercise training that is easily accessible to all older adults to maintain well-being later in life.

CORRESPONDING AUTHOR: Elizabeth Awick, BS, University of Illinois Urbana-Champaign, Urbana, IL, 61801; elizabeth.awick@gmail.com

MULTILEVEL MODELING OF EXERCISE EFFECTS ON LONELINESS IN OLDER ADULTS

Michael J. Mackenzie, PhD, Hyondo D. Chung, MS, Krystle E. Zuniga, PhD, Jeffrey A. Woods, PhD and Edward McAuley, PhD

Kinesiology & Community Health, University of Illinois at Urbana-Champaign, Urbana, IL.

Despite the prevalence of loneliness in older adults, it is rarely considered an independent outcome in clinical exercise trials. We examined the effects of an exercise intervention on loneliness over a 10-month period in a sample of older adults. Participants ($N=127$, M age = 69.89 years) were randomly assigned to either an aerobic exercise or flexibility condition. A series of multilevel models examined intervention effects on loneliness and how changes in commonly identified correlates (e.g., physical activity, depression, perceived stress, social support) were associated with changes in loneliness over the course of the trial. An initial estimated marginal means model revealed a significant time by treatment by gender reduction in loneliness ($p = .005$). Decomposition of this interaction revealed reductions in loneliness from baseline to post-intervention in the flexibility condition, but only for women ($p = .008$, $d = .43$) and reductions in loneliness in the aerobic exercise condition but only for men ($p = .001$, $d = .69$). However, in a final multilevel regression model, loneliness decreased over the course of the ten-month intervention independent of treatment assignment. Those who reported higher physical activity, lower depression and lower perceived stress concurrently reported lower loneliness across all measurement occasions and single participants who reported average or lower social support reported greater loneliness than those who were married across all measurement occasions (pseudo $R^2 = 0.38$). Interventions that offer lonely adults opportunities to simultaneously interact with others while increasing their level of activity should represent a health priority. The current findings can be used in the development of exercise interventions designs based not only on alleviating loneliness but with respect to participant gender, marital status, exercise preferences and existing social relations.

CORRESPONDING AUTHOR: Michael J. Mackenzie, PhD, Kinesiology & Community Health, University of Illinois at Urbana-Champaign, Urbana, IL, 61801; mmackenz@illinois.edu

MULTILEVEL MODELING OF THE IMPACT OF NEIGHBORHOOD RISK AND PROTECTIVE FACTORS ON BLOOD PRESSURE IN UNDERSERVED AFRICAN-AMERICAN COMMUNITIES

Sandra M. Coulon, MA,^{1,2} Dawn K. Wilson, PhD,¹ Kassandra A. Alia, MA¹ and M. Lee Van Horn, PhD¹

¹Department of Psychology, University of South Carolina, Columbia, SC and ²Institute of Psychiatry, Medical University of South Carolina, Charleston, SC.

African-Americans experience the highest rates of elevated blood pressure in the U.S., with this disparity linked to neighborhood socioeconomic disadvantage. Buffering theory posits that the negative effects of socioeconomic stress or disadvantage on health may be attenuated by positive neighborhood factors and supports. Based on a buffering hypothesis, a multi-level modeling approach tested direct and interacting relations of neighborhood contextual factors and blood pressure in African-American adults. Participants in the Positive Action for Today's Health trial (N=434) provided perceptions of neighborhood crime and satisfaction, residential addresses for estimating neighborhood poverty, and measures of blood pressure. Participants were clustered by census block groups (N=24), with neighborhood poverty determined for each group using 2010 census data. Perceived crime and satisfaction interacted to predict both systolic ($\gamma=-4.15$, SE=1.90, $p<.05$) and diastolic ($\gamma=-2.89$, SE=1.22, $p<.05$) blood pressure, such that crime was positively associated with systolic and diastolic blood pressure at lower levels of satisfaction and inversely associated with diastolic blood pressure at higher levels of satisfaction. Percent neighborhood poverty was associated with diastolic blood pressure ($\gamma=11.48$, SE=4.08, $p<.05$) with a trend for predicting systolic blood pressure ($\gamma=12.79$, SE=6.33, $p=.06$). Intra-class correlations by block group were low (.00-.01) and no random effects were estimated. The impact of perceived neighborhood crime on blood pressure may be greatest when neighborhood satisfaction is low, with residence in an impoverished neighborhood also related to higher BP in African-American adults. Given the impact of neighborhood socioeconomic disadvantage on blood pressure, public policy efforts may reduce health disparities in part by promoting neighborhood satisfaction and attending to neighborhood-level risk factors.

CORRESPONDING AUTHOR: Sandra M. Coulon, MA, Department of Psychology, University of South Carolina, Columbia, SC, 29208; sandrausc@gmail.com

**BUILT ENVIRONMENT AND CARDIOVASCULAR DISEASE RISK FACTORS-A
DECISION TREE ANALYSIS**

Heather J. Leach, PhD,^{1,2} Scherezade K. Mama, DrPH³ and Rebecca E. Lee, PhD⁴

¹Tx Obesity Research Ctr, Health & Human Performance, U of Houston, Houston, TX;

²Faculty of Kinesiology, U of Calgary, Calgary, AB, Canada; ³Health Disparities Research, U of Texas, MD Anderson Cancer Ctr, Houston, TX and ⁴College of Nursing and Health Innovation, Arizona State University, Phoenix, AZ.

African American (AA) women have higher risk of cardiovascular disease (CVD), possibly attributed to risk factor disparities. Built environment characteristics that support physical activity (PA) may lead to improvement in risk factors and decreased CVD risk. This study used decision tree analysis to determine if built environment characteristics contributed to having multiple risk factors at ideal levels. Participants were recruited as part of a larger follow up study, and completed questionnaires and a physical assessment to measure risk factors, including smoking, body mass index, PA, dietary habits, cholesterol, glucose and blood pressure. Built environment characteristics were measured by neighborhood audit. The Classification and Regression Trees growing method grouped participants as ≥ 4 vs. ≤ 3 risk factors at ideal levels. Each risk factor was categorized as 'ideal' or 'not ideal' according to American Heart Association definitions and summed for each participant. Built environment predictors were presence and quality of PA resources (PARs), walkability, traffic and crime safety. Age and income were included as covariates. Participants (n=30) ranged in age from 39-66 (M=54.1 \pm 7.5 yrs), and had a median household income of \$66,000-76,000/year. Overall, 66.7% of participants had ≥ 4 risk factors at ideal levels. All participants had at least one risk factor at an ideal level, and none had all seven at ideal levels. The decision tree identified AA women with few, low quality neighborhood PARs, and who were older than 55 yrs at the greatest risk for having ≤ 3 risk factors at ideal levels (83.3%). Future studies with larger sample sizes should compare logistic regression models to decision tree analyses, as concordance of both methods would indicate the strongest predictors and could be used to direct community and policy CVD prevention efforts.

CORRESPONDING AUTHOR: Heather J. Leach, PhD, Faculty of Kinesiology, University of Calgary, Calgary, AB, T2N-1N4; hleach@ucalgary.ca

BEHAVIORAL LIFESTYLE INTERVENTION DECREASES RISK IN TYPE 2 DIABETES: RESULTS OF THE CALM-D RANDOMIZED CONTROLLED TRIAL

Ashley E. Moncrieft, PhD,¹ Maria M. Llabre, PhD,¹ Judith R. McCalla, PhD,¹ Miriam Gutt, PhD,² Armando J. Mendez, PhD,² Marc D. Gellman, PhD,¹ Ronald B. Goldberg, MD² and Neil Schneiderman, PhD¹

¹Psychology, University of Miami, Coral Gables, FL and ²Medicine, University of Miami Miller School of Medicine, Miami, FL.

BACKGROUND AND PURPOSE: Excess body weight, poor glycemic control, depression, and renal function decline are independently associated with increased risk of poorer outcomes in type 2 diabetes. We tested the effect of a multicomponent behavioral intervention focused on improving diet, physical activity and stress management/coping on weight, glycemic control, renal function and depressive symptoms in a community-dwelling sample composed primarily of relatively poor ethnic minority participants.

METHODS: A sample of 111 adults with type 2 diabetes (mean age = 54.81 years, 28.8% male, 85% Hispanic, mean annual household income = \$14,382) participated in a randomized controlled trial titled Community Approach to Lifestyle Modification in Diabetes (CALM-D). Eligible participants were overweight or obese, and reported pronounced symptoms of depression, but had no evidence of cardiovascular or renal disease. Participants were assigned to a 1 year, 17-session intervention (n = 54) aimed at improving diet, physical activity, and stress management, or to usual care (n = 57). Outcomes included weight, glycosylated hemoglobin (HbA1c), Beck Depression Inventory-II (BDI-II) score, and estimated glomerular filtration rate (eGFR) assessed at baseline, 6-months, and 12-months post randomization. Latent growth modeling was used to examine intervention effects on each outcome.

RESULTS: Using 'intent-to-treat' analyses, the intervention resulted in decreased weight (b = -.322, SE = .124, p = .01), HbA1c (b = -.066, SE = .028, p = .017), and depressed affect (b = - 1.009, SE = .226, p < .001), and improved eGFR (b = .742, SE = .318, p = .020) relative to usual care.

CONCLUSIONS: Multicomponent behavioral interventions targeting weight loss and depressive symptoms as well as diet and physical activity are useful in the management of type 2 diabetes and its complications.

CORRESPONDING AUTHOR: Ashley E. Moncrieft, PhD, Psychology, Univ Miami, Miami, FL, 33136; amoncrieft@psy.miami.edu

MOTIVATIONAL INTERVENTION FOR MINORITY YOUTH WITH TYPE 1 DIABETES

Alan Delamater, PhD, Amber Daigre, PhD, Elizabeth Pulgaron, PhD, Ashley Marchante, BA, Anna Maria Patino-Fernandez, PhD and Janine Sanchez, MD

Pediatrics, Univ Miami, Miami, FL.

Background: Minority youth with type 1 diabetes (T1D) are at increased risk for metabolic control problems. The purpose of this study was to conduct a pilot test of a family intervention for these youth utilizing motivational interviewing (MI).

Method: Thirty-three Hispanic and African American youth with T1D and their parents were recruited from a university-based diabetes outpatient clinic to participate in a one-year study. Mean age of youth was 13.5 years, mean duration of T1D was 6.0 years, and mean A1c was 8.89%. Fifteen families participated in the family MI program, while 18 families constituted a comparison group that received study assessments at baseline, six and 12 months. The two groups did not differ on any variable at baseline. Primary outcomes were diabetes self-management behaviors (Diabetes Self-Management Profile) and glycemic control (A1c). Diabetes-related intrinsic motivation, family support and conflict, and responsibilities for diabetes management were also measured as theory-based mediators.

Results: Youth in the intervention group participated in a mean of 6.7 family sessions over six months. Results of repeated measures ANOVAs indicated significant improvements for youth receiving MI who, relative to comparison youth, improved dietary behaviors ($p < .04$), management of hypoglycemia ($p < .03$), and blood glucose monitoring ($p < .04$) over time. There were no significant changes in glycemic control, but 54% of youth receiving MI improved or maintained A1c versus 31% of comparison youth. While there were no significant changes in family mediators, intrinsic motivation for diabetes management increased over time for youth in both groups ($p < .001$); higher baseline intrinsic motivation predicted increased self-management behaviors ($r = .52$, $p < .01$) and better glycemic control ($r = -.39$, $p < .03$) six months later.

Conclusions: These pilot findings indicate that minority youth receiving family-based MI exhibited improvements in diabetes self-management behaviors, and higher initial intrinsic motivation predicted better subsequent regimen behaviors and glycemic control.

CORRESPONDING AUTHOR: Alan Delamater, PhD, Pediatrics, Univ Miami, Miami, FL, 33136; adelamater@med.miami.edu

ROLE OF SPIRITUALITY AND PREPAREDNESS FOR THE DEATH OF CANCER PATIENTS IN COPING WITH BEREAVEMENT

Aurelie Lucette, MS,¹ Rachel S. Cannady, BS² and Youngmee Kim, PhD¹

¹University of Miami, Coral Gables, FL and ²American Cancer Society, Atlanta, GA.

After providing care to a patient with cancer, bereaved caregivers often experience poor mental health. Yet, little is known about resilience factors against negative bereavement outcomes. This study examined (1) the prospective effects of different components of spirituality on cancer caregivers' preparedness for the death of the patient and bereavement-specific as well as general distress, and (2) the association between preparedness and distress. A total of 113 cancer caregivers who participated in a longitudinal, nationwide survey (T1) were identified as bereaved 3 years later (T2) and provided valid data for the study variables. Spirituality (FACIT-Sp; meaning, peace, and faith) and covariates (demographics, caregiving stress, caregivers' esteem, and patient cancer severity) were measured at T1. Caregivers' preparedness for the patient's death and time since death were measured at T2. PTSD-like symptoms (IES-R; intrusion, avoidance, and hyperarousal) that are pertinent to bereavement and grief symptom intensity (TRIG) were measured as indicators of bereavement-specific distress (T2). Depressive symptoms (CES-D) and general mood disturbance (POMS-SF) were measured as indicators of general distress at T2. Hierarchical general linear modeling revealed that the meaning component of spirituality predicted greater preparedness for patients' death while peace predicted less intense grief, less intrusive and hyperarousal symptoms, and decreased depressive symptomatology ($p < .03$). Preparedness was negatively related to grief intensity, avoidance symptoms, and general mood disturbance. Our results suggest that the cognitive component of spirituality (i.e., meaning) might be more instrumental in preparing caregivers for the loss of their loved one while the affective component (i.e., peace) seems to predict the overall distress they subsequently experience. Providing tailored, spiritual care to caregivers during the different phases of caregiving might significantly help them adjust to the successive challenges associated with their loss.

CORRESPONDING AUTHOR: Aurelie Lucette, MS, University of Miami, Coral Gables, FL, 33146; alucette@psy.miami.edu

WOMEN'S INVOLVEMENT IN SHARED DECISION MAKING FOR MAMMOGRAPHY: RESULTS FROM THE HEALTH AND RETIREMENT STUDY

Shirley Bluethmann, MPH, MA,¹ Jennifer D. Allen, ScD, MPH,^{2,3} Laura Tom, MS,² Matthew Chenoweth, MS, MPH⁴ and Bryan Leyva, BA⁵

¹University of Texas School of Public Health, Houston, TX; ²Dana-Farber Cancer Institute, Boston, MA; ³Harvard Medical School, Boston, MA; ⁴Community Health Program, Tufts University, Medford, MA and ⁵Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD.

Shared decision making (SDM) has been described as the "pinnacle" of patient-centered care. The Institute of Medicine and others recommend that all women should be engaged in SDM for mammography decisions. This study describes women's reported SDM involvement and compares characteristics of women reporting lower v. higher levels of SDM for screening.

We analyzed data from the 2008 Health and Retirement Survey, a nationally representative panel survey of U.S. retirees. SDM data for women >40 years, self-reporting screening within the last 2 years, were analyzed (n= 558). A composite score was calculated from 6 survey items that evaluated components of SDM for mammography (theoretical range 0-6). Among participants, 68% reported screening discussions with providers. While 57% reported discussing screening advantages, only 2% reported discussing potential disadvantages. Only 21% reported that providers specifically asked about individual preferences, and 38% reported involvement in final decisions. The mean SDM score for women 50-74 years was 2.65 (sd = 1.43) and for those >75 years was 2.27 (sd = 1.35). Results from multivariable analysis suggest that younger and Black women may be more likely to report higher SDM levels.

Most women were not involved in SDM to the extent recommended. Women 75+ had low SDM scores, a concern since routine screening is not consistently recommended for this age group. Higher SDM scores for younger, Black women may reflect provider awareness of increased risk for this group. Our findings suggest a need for interventions to improve patient/provider communication and empower women to actively engage in SDM in cancer screening.

CORRESPONDING AUTHOR: Shirley Bluethmann, MPH, MA, University of Texas School of Public Health, Houston, TX, 77030; shirley.m.bluthmann@uth.tmc.edu

WORKING WITH PARISHES FOR CANCER CONTROL: RECRUITMENT AND ENGAGEMENT STRATEGIES IN THE CRUZA STUDY

Bryan Leyva, BA,¹ Jennifer D. Allen, ScD, MPH,² Sarah Rustan, MS,³ Laura Tom, MS,² Ana Galeas, BS,² Maria I. Torres, PhD, MPH³ and Hosffman Ospino, PhD⁴

¹National Cancer Institute, Gaithersburg, MD; ²Dana-Farber Cancer Institute, Boston, MA; ³University of Massachusetts, Boston, Boston, MA and ⁴Boston College, Chestnut Hill, MA.

Background: A number of issues make health research in Latino faith-based organizations (FBOs) challenging, such as establishing a sampling frame, recruitment, and data collection. We present activities undertaken by the CRUZA study to conduct organizational surveys among Catholic parishes in Massachusetts as part of a study designed to build the capacity of FBOs to deliver evidence-based interventions for cancer control.

Methods: We searched online archives to compile a list of 65 parishes that held Mass in Spanish, and verified these parishes with telephone calls and site visits. This was followed by a series of community engagement activities to garner leadership support at the diocesan level. Multiple strategies were used for recruiting individual parish leaders and administering the four-part survey, including phone calls, visits and survey mailings. We present descriptive statistics on survey recruitment and administration.

Results: Participating parishes varied in size (range: 60 - 7750 members; M=2020; SD = 1830). We achieved a 75.4% participation rate (49 of 65 parishes), with 89.8% of participating parishes completing all four survey sections. Contact attempts to complete the survey ranged from 5 to 34 (M=16.6; SD = 7.9). Of all respondent types, pastoral leaders tended to require the most contact attempts (M=9.3; SD=6.4) and they were the most frequent respondents (79.4%). 24.7% of respondents completed their survey section(s) during an in-person visit.

Conclusions: We achieved a high survey completion rate after employing a variety of recruitment strategies. We provide lessons based on CRUZA's experience in conducting organizational surveys among Catholic parishes.

CORRESPONDING AUTHOR: Bryan Leyva, BA, Behavioral Research Program, National Cancer Institute, Bethesda, MD, 20892; leyvavengoechb@nih.gov

EFFORTFUL CONTROL & EGO-RESILIENCY: THE ROLE OF CARDIAC AUTONOMIC REGULATION

Derek Spangler, Master's and Bruce H. Friedman, PhD

Virginia Tech, Blacksburg, VA.

Effortful control (EC) (Rothbart & Bates, 1998) and ego-resiliency (ER) (Block & Kremen, 1996) are dimensions that reflect ability to recover from negative affect, and may convey risk of coronary heart disease (CHD) (Kubzansky & Kawachi, 2000). Identifying elements of cardiac autonomic regulation shared by EC and ER may clarify the mechanisms by which emotion regulation contributes to cardiac health. In the present study, persons scoring low on EC and ER were each predicted to show less vagal and more sympathetic cardiac control following stress. Eighty-four volunteers (mean age = 19.6, SD = 1.8) completed the ER Questionnaire and EC scale of the Adult Temperament Questionnaire. ECG and impedance cardiography (ICG) were recorded while subjects completed each of 3 tasks: mental arithmetic, verbal fluency, and speech preparation. Each task was preceded and followed by baseline and recovery periods. Interbeat interval (IBI) and high frequency heart rate variability (HF HRV) were derived from the ECG to index heart period and cardiac vagal activity, respectively. Pre-ejection period (PEP) was calculated from the ICG to index cardiac sympathetic activation. Recovery scores were computed and entered into regression analyses. Results indicate that for mental arithmetic, EC significantly moderated the relation between HF HRV and IBI recovery, $\beta = .204$, $t(78) = 2.01$, $p = .048$. Persons scoring high in EC showed a stronger relation between IBI and HF HRV, $\beta = .594$, $t(78) = 3.78$, $p < .001$, than low scorers, $\beta = .085$, $t(78) = .511$, $p = .611$. Across tasks, ER moderated the relation between PEP and IBI recovery, $\beta = .232$, $t(78) = 2.19$, $p = .031$. High ER scores were associated with an increased relation between PEP and IBI, $\beta = .319$, $t(78) = 3.14$, $p = .002$, compared to that of low scores, $\beta = -.093$, $t(78) = -.552$, $p = .582$. Results suggest that persons high in EC have enhanced cardiac vagal regulation and those high in ER have increased sympathetic cardiac control. Such findings suggest that high EC should be further studied as a protective factor against CHD.

CORRESPONDING AUTHOR: Derek Spangler, Master's, Virginia Polytechnic Institute & State University, Blacksburg, VA, 24060; dereks1@vt.edu

GENDER DIFFERENCES IN THE PREVALENCE OF BINGE EATING AND CARDIOVASCULAR RISK FACTORS

Diane L. Rosenbaum, MA^{1,2} and Kamila S. White, PhD¹

¹University of Missouri-St. Louis, St. Louis, MO and ²VA Palo Alto Healthcare System, Palo Alto, CA.

To date, there have been mixed data regarding gender differences in the prevalence of binge eating disorder (BED). While the prevalence of overweight and obesity is high among individuals with BED, less is known regarding other cardiovascular risk factors, particularly in regard to gender. The current study examined gender differences in binge eating, along with cardiovascular risk factors including overweight and obesity, in a community sample. Participants (N=435) were recruited across several regions of the United States using online advertisements. The Eating Disorder Diagnostic Scale was used to measure binge eating symptoms. Participants self-reported height, weight, and diagnoses of hypertension and hyperlipidemia. Demographics were as follows: 15.1% African American, 1.2% American Indian/Alaska Native, 7.4% Asian American, 5% Biracial/Multiracial, 64.7% Caucasian, 6.5% Hispanic/Latino, 0.2% Native Hawaiian/Pacific Islander. Participants ranged between 18-72 years old (M age=33.4, SD=13.5). The sample was 62% female.

In total, 13.3% of the sample endorsed binge eating symptoms. Approximately 6.8% of the sample met criteria for BED; 6.5% endorsed subclinical symptoms. The range of BMI for the sample was 16.5-68.4 (M=27.5, SD=7.7). More than half of the sample was above a healthy weight (28.7% obese, 27.7% overweight). Although women reported significantly higher levels of binge eating symptoms than men ($t=-1.95, p<.05$), men had higher BMIs than women ($t=2.3, p<.05$). Men also reported higher rates of hypertension ($\chi^2=17.8, p<.000$), and hyperlipidemia ($\chi^2=14.2, p<.000$).

Contrary to expectations, binge eating status did not cluster with cardiovascular risk factors. These data suggest that vulnerability to some weight-related syndromes may differ by gender. Additional research is needed regarding the psychological and physiological consequences of binge eating symptoms among women. Further investigation may determine if differential screening processes for men and women in medical settings may help target appropriate behavioral medicine interventions.

CORRESPONDING AUTHOR: Diane L. Rosenbaum, MA, University of Missouri-St. Louis, St. Louis, MO, 63121; dlrf25@umsl.edu

A SOCIAL CLIMATE AND BEHAVIORAL SKILLS APPROACH TO PROCESS EVALUATION: THE FAMILIES IMPROVING TOGETHER (FIT) FOR WEIGHT LOSS TRIAL

Kassandra A. Alia, MA,¹ Dawn K. Wilson, PhD,¹ Tyler McDaniel, MS,¹ Sara M. St. George, MA,¹ VaShawn Heatley, BA,¹ Heather Kitzman-Ulrich, PhD² and Kelsey Smith, MEd¹

¹Psychology, University of South Carolina, Columbia, SC and ²Health Science Center, University of North Texas, Fort Worth, TX.

Process evaluation is designed to inform program implementation and may lead to more effective weight loss program delivery for youth. The present study demonstrates how theory was used to guide the assessment of dose (completeness of program delivery) and fidelity (extent to which program is delivered as intended) in the Families Improving Together (FIT) for weight loss randomized controlled trial. Project FIT is evaluating a culturally tailored, motivational plus family weight loss (M+FWL) program versus a comprehensive health education (CHE) program on weight loss in African American adolescents. To date, 93 overweight or obese youth (65% female, M age = 13.6±1.7 yrs) and their parents (93% female, annual income 53.3% ≤\$39K) have enrolled. Social Cognitive, Self Determination and Family Systems theories guided the conceptualization of essential elements for the facilitator and group interactions related to developing a positive social climate and behavioral skill building. An observational rating tool was used to assess implementation of group sessions by trained observers. Dose was rated using items (0=no, 1=yes) pertaining to delivery of program components. In the M+FWL program, items (1=none to 4=all) assessed facilitator and group fidelity to climate based and behavioral elements. A priori criteria were set at ≥75% for dose and ≥3.0 for fidelity. Preliminary data indicate acceptable dose of program components (100% in M+FWL and CHE) and high fidelity (facilitator communication=3.7±0.3; communication modeling=3.9±.10, autonomy support=3.5±0.4; social support=3.3±0.5; positive group climate=3.3±.3; behavioral skills=3.3±0.6). This study provides an innovative framework for assessing program implementation of climate-based and behavioral theoretical elements for weight loss programs for underserved, minority families.

CORRESPONDING AUTHOR: Kassandra A. Alia, MA, Psychology, University of South Carolina, Columbia, SC, 29201; kassy0408@gmail.com

SOCIAL RELATIONS AND ALL-CAUSE MORTALITY

Katie Becofsky, MS, Robin P. Shook, PhD, Xuemei Sui, MD, PhD, Sara Wilcox, PhD and Steven N. Blair, PED

Univ South Carolina, Columbia, SC.

Background: Social support and social network size have been inversely associated with mortality risk in previous research, although less is known about the importance of different sources of support and optimal social network size.

Purpose: To examine the associations between relative, friend, and partner support, as well as size of weekly social network, on mortality risk in the Aerobics Center Longitudinal Study (ACLS).

Methods: Adult ACLS participants (n=12,712) completed standardized questions regarding their sources of social support (relatives, friends, spouse/partner), and the number of friends and family members they had contact with at least once per week. All questionnaires were completed in 1990, and participants were followed until December 31, 2003 or death. Cox hazard ratios were calculated, controlling for age, gender, body mass index, smoking and alcohol status, and presence of hypertension, high cholesterol, and diabetes at baseline.

Results: Participants (75% men) averaged 53 years of age at baseline and were followed for an average of 13 years. Participants reporting family support had an 18% lower risk of mortality as compared to participants reporting no family support (HR .821, 95% CI .697-.966). Participants reporting spousal/partner support had a 19% lower risk of mortality as compared to participants reporting no spousal/partner support (HR .809, 95% CI .664-.984). Support from friends was not significantly related to mortality risk (HR .908, 95% CI .755-1.092). Participants reporting being in contact with ≥ 4 or ≥ 5 friends on a weekly basis had significantly lower odds of dying than those in contact with < 4 or < 5 friends, with the greatest risk reduction (15%) apparent when contact was with ≥ 5 friends as compared to < 5 friends (HR .853, 95% CI .748-.973).

Conclusions: In this sample, perceived support from one's spouse/partner and relatives was protective against mortality, whereas perceived support from friends was not.

Interestingly, despite these findings, maintaining weekly social interaction with a small network of friends had a protective effect.

CORRESPONDING AUTHOR: Katie Becofsky, MS, Exercise Science, Univ South Carolina, Columbia, SC, 29201; becofsky@email.sc.edu

DEVELOPMENT AND RELIABILITY TESTING OF A HEALTH ACTION PROCESS APPROACH INVENTORY FOR PHYSICAL ACTIVITY PARTICIPATION AMONG INDIVIDUALS WITH SCHIZOPHRENIA

Markus Duncan, BSc,¹ Kelly Arbour-Nicitopoulos, PhD,¹ John Cairney, PhD,² Tony Cohn, MB, MSc,^{1,3} Gary Remington, MD, PhD^{1,3} and Guy Faulkner, PhD^{1,3}

¹University of Toronto, Toronto, ON, Canada; ²McMaster University, Hamilton, ON, Canada and ³Centre for Addiction and Mental Health, Toronto, ON, Canada.

Individuals with schizophrenia tend to have high levels of cardiovascular disease, obesity, and diabetes. Physical activity (PA) levels are also lower than the general population. Research is urgently required in developing evidence-based behavioural interventions for increasing PA in this population. One model that has been increasingly used to understand the mechanisms underlying PA is the Health Action Process Approach (HAPA). The purpose of this study was to adapt and pilot-test a HAPA-based inventory that reliably captures salient, modifiable PA determinants for individuals with schizophrenia. Initially, twelve outpatients with schizophrenia reviewed the inventory and provided verbal feedback regarding comprehension, relevance of the items, and potential new content. A content analysis framework was used to inform modifications to the inventory. The resultant inventory underwent a quantitative assessment of internal consistency and test-retest reliability. Twenty-five outpatients completed the inventory on two separate occasions one week apart. All but one scale (risk perceptions (chance) at Time 1 only, $\alpha = 0.62$) showed good internal consistency (Cronbach's $\alpha = 0.80-0.98$). The majority of scales showed significant and good or better test-retest correlations ($r = .84-.96$; $ps < .05$). Outcome expectancies ($r_{\text{likelihood}} = .32$; $r_{\text{value}} = .38$; ns) and risk perceptions (likelihood; $r = .21$; ns) showed poor test-retest reliability. In a preliminary assessment of criterion validity, task self-efficacy ($r = .41$; $p < .05$) was significantly associated with self-reported minutes of moderate to vigorous PA. With minor adjustments, the HAPA-based inventory should serve as a suitable assessment of determinants of PA participation among people with schizophrenia. A future study will use an objective measure of PA (accelerometry) in a prospective design to complete validation of the inventory.

CORRESPONDING AUTHOR: Markus Duncan, BSc, Exercise Sciences, University of Toronto, Toronto, ON, M5S 2W6; mark.duncan@utoronto.ca

THE WHOLE-OF-SCHOOL APPROACH FOR PHYSICAL ACTIVITY: SCHOOL PRACTICES AND ASSOCIATIONS WITH STUDENT PHYSICAL ACTIVITY IN A NATIONALLY REPRESENTATIVE SAMPLE OF SECONDARY STUDENTS

Natalie Colabianchi, PhD,¹ Jamie L. Griffin, PhD,¹ Sandy J. Slater, PhD,² Patrick M. O'Malley, PhD¹ and Lloyd D. Johnston, PhD¹

¹Institute for Social Research, University of Michigan, Ann Arbor, MI and ²Institute for Health Research and Policy, University of Illinois at Chicago, Chicago, IL.

In 2013, the Institute of Medicine called upon schools to take a whole-of-school approach to physical activity (i.e., schools incorporate physical activity throughout the school day, including before and after school). Using data from the Monitoring the Future (MTF) and Bridging the Gap (BTG) studies, we examined the degree to which US secondary schools are implementing practices recommended in the whole-of-school approach and whether adolescents who attend schools with greater levels of implementation are more likely to obtain 60 minutes a day of physical activity. MTF annually surveys a nationally representative sample of students attending US middle and high schools. BTG collects data on the school practices in these same schools, which are self-reported by the school administrators. Six different school practices related to physical activity were summed to form a whole-of-school index in 8th and 10th/12th grade schools for school years 2010/11 - 2011/12. Multilevel linear regressions were implemented to examine whether the whole-of-school index was predictive of the number of days that adolescents achieved at least 60 minutes of physical activity. All models controlled for a number of covariates at the individual and school level. Results indicate that a low proportion of schools implemented all 6 practices at either the middle or high school level. Among 8th graders, adolescents who attended schools with higher scores on the whole-of-school index were physically active for at least 60 minutes on more days ($p < .05$). The relationship was not significant in 10th/12th graders. This study suggests that the whole-of-school approach is a promising strategy to increase the number of days that middle school students are active for at least 60 minutes. However significant work is needed to increase the number of schools who are adopting the whole-of-school approach.

CORRESPONDING AUTHOR: Natalie Colabianchi, PhD, Institute for Social Research, University of Michigan, Ann Arbor, MI, 48104; colabian@umich.edu

MAOA-STRESS INTERACTIONS ON DIETARY PATTERNS IN CHINESE ADOLESCENTS

Bin Xie, PhD,¹ Dalin Li, PhD,² Aye Aye Khaine, MS,¹ Hilary Tanenbaum, MS,¹ Paula H. Palmer, PhD,¹ C. A. Johnson, PhD¹ and David Conti, PhD³

¹School of Community and Global Health, Claremont Graduate University, Claremont, CA;

²Cedars-Sinai Medical Center/University of California at Los Angeles, Los Angeles, CA

and ³Keck School of Medicine, University of Southern California, Los Angeles, CA.

Monoamine oxidase A (MAOA) regulates food intake by modulating serotonin and dopamine metabolism. Our previous replication research confirmed the genetic effects of the 30-bp tandem repeat (uVNTR) MAOA polymorphism on body mass index (BMI) in a Chinese adolescent population and suggested potential genetic interactions with negative stress experience. In this analysis, we continued to examine the population effects of experiences with negative stressors from school, family, peers, violence and negative health situations, MAOA uVNTR Polymorphism, and their interactions on the dietary patterns derived from a validated 124-item food frequency questionnaire. The sample consisted of 1,018 randomly selected Chinese adolescents of 11-15 years old. Using factor analysis, we identified 2 major dietary patterns. The first factor, labeled as "sweet-meat pattern", was characterized by high intake of sweets, organ/processed/red meat, fast food, poultry, soda, dairy, fruits and cereals, whereas the second factor, the "vegetable-soy pattern", was characterized by high intake of varied vegetables, nuts, and soy products. After adjustment of age, pubertal status, parental education, total energy intake and school random effects, significant gene-stress interactions on high intake of "vegetable-soy pattern" were found. Carrying high function alleles (3.5 or 4 repeats) significantly weakened the association of negative stress experience with high intake (i.e. high factor scores) of "vegetable-soy pattern" (beta for interaction: -0.3 ± 0.09 , $p=0.0008$). Consistent results of gene-stress interactions were observed in boys and girls and in specific food components of "vegetable-soy pattern" when analyzed separately. Our findings strongly indicate that MAOA can modulate the effect of negative stressors on dietary behaviors, which might have broad practical implications in obesity prevention.

CORRESPONDING AUTHOR: Bin Xie, PhD, School of Community and Global Health, Claremont Graduate University, Claremont, CA, 91711; bin.xie@cgu.edu

PATHWAYS LINKING SHORT SLEEP DURATION TO CHILD OBESITY IN LOW-SES HOUSEHOLDS

Bradley M. Appelhans, PhD,¹ Stephanie L. Fitzpatrick, PhD,¹ Hong Li, PhD,¹ Vernon Cail, MPH, MPA,¹ Molly E. Waring, PhD,² Kristin L. Schneider, PhD,³ Matthew C. Whited, PhD,⁴ Andrew M. Busch, PhD⁵ and Sherry L. Pagoto, PhD²

¹Rush University Medical Center, Chicago, IL; ²University of Massachusetts Medical School, Worcester, MA; ³Rosalind Franklin University, North Chicago, IL; ⁴East Carolina University, Greenville, NC and ⁵Brown University, Providence, RI.

Obesity disproportionately affects children from low socioeconomic status (SES) homes. This case-control study sought to identify aspects of the home environment and child and caregiver behaviors that discriminate low-SES households (98% ethnic minority) with predominantly overweight/obese children ages 6-13 (n=55) from those with only normal weight children (n=48). Caregivers and children jointly reported on child sleep duration, screen time, and intake of obesity-promoting foods. Anthropometric measurements and staff audits of the foods, media, and sports equipment in the home were conducted. Of all factors assessed, shorter sleep duration emerged as the strongest correlate of child overweight/obesity status (OR=0.45, p<.01). Path models examined direct and indirect associations involving sleep duration and overweight/obesity status. The best-fitting model (model $\chi^2=9.51$, p=.58, CFI=1.00), accounting for 26.4% of variance in overweight/obesity status, included an indirect effect (b=0.07, p<.01) such that greater screen time was related to shorter sleep duration (b=-0.15, p<.001), and shorter sleep duration was related to child obesity (b=-0.44, p<.001). Shorter sleep duration was associated with a more chaotic home environment (b=-0.06, p=.03). Screen time was inversely related to parental monitoring of media use (b=-0.28, p<.001). Alternative models in which the sleep-obesity association was mediated by dietary intake or physical activity, or moderated by the presence of obesity-promoting foods, media, or sports equipment in the home, were not supported. Findings suggest that sleep duration may be a critical intervention target in child obesity interventions for low-SES populations.

CORRESPONDING AUTHOR: Bradley M. Appelhans, PhD, Rush University Medical Center, Chicago, IL, 60612; brad_appelhans@rush.edu

DIAGNOSTIC SEVERITY AND FUNCTIONAL LIMITATIONS CONTRIBUTE TO INCREASED PREVALENCE OF OBESITY IN AUTISTIC YOUTH

Megan M. Fritz, BS, E. Amy Janke, PhD and Jessica Sautter, PhD

Behavioral and Social Sciences, University of the Sciences, Philadelphia, PA.

Background: Limited evidence suggests that obesity occurs at a higher rate in individuals with autism spectrum disorders (ASD); however, available research is limited by methodological concerns, including inadequate examination of diagnostic severity and functional limitations.

Objectives: Using a nationally-representative sample, evaluate ASD diagnosis as a risk factor for obesity, examine the role of environmental and behavioral factors in observed obesity rates, and assess whether functional limitations and diagnostic severity contribute to the likelihood of obesity in youth with ASD.

Methods: We used data from the National Survey of Children's Health (NSCH) 2007. Children age 10-17 (n=41,902) were included in analysis (ASD diagnosis n=464; no ASD diagnosis n=41,438). Binary logistic regression models examined the impact of ASD diagnosis, environmental, and behavioral factors on likelihood for obesity, and the role of functional limitations and diagnostic severity in obesity rates for youth with ASD.

Results: Children with ASD were more than twice as likely to be obese than children without ASD (Unadjusted OR=2.19; 95% CI = 1.78, 2.71), with a prevalence of 25.4% in ASD compared to 13.5% in non-ASD youth ($p < .000$). In addition to ASD diagnosis, sociodemographic (e.g., poverty, race/ethnicity) and behavioral (e.g., screen time, physical activity) factors were associated with increased rates of obesity ($p < .000$). Among youth with ASD, those with a moderate (OR = 1.26, 95% CI = 0.77, 2.05) or severe ASD diagnosis (OR = 2.37, 95% CI = 1.19, 4.71) were more likely to be obese compared to those with a mild diagnosis.

Conclusions: ASD diagnosis appears to be a significant risk factor for obesity. Furthermore, among youth diagnosed with ASD, symptom severity and functional limitations appear to enhance this risk. Heightened efforts at early identification and intervention are warranted to prevent and treat obesity among youth with ASD, particularly in those with more severe ASD-related symptoms and impairment.

CORRESPONDING AUTHOR: Megan M. Fritz, BS, Behavioral and Social Sciences, University of the Sciences, Philadelphia, PA, 19104; mfritz@mail.usciences.edu

PHYSICAL SYMPTOMS CAN PRECEDE PTSD SYMPTOMS IN A LONGITUDINAL PROSPECTIVE STUDY OF SOLDIERS DEPLOYED TO IRAQ AND AFGHANISTAN

Lisa M. McAndrew, PhD,^{1,2} Sarah J. Schmiede, PhD³ and Karen S. Quigley, PhD^{4,5}

¹WRIISC, VA NJHCS, East Orange, NJ; ²Division of Counseling Psychology, University at Albany, Albany, NY; ³Department of Biostatistics and Informatics, University of Colorado Denver, Denver, CO; ⁴Veterans Affairs, ENR Bedford Memorial Hospital, Bedford, MA and ⁵Department of Psychology, Northeastern University, Boston, MA.

Objectives: Post traumatic stress disorder (PTSD) is associated with increased physiological arousal and more physical symptoms, like nausea or pain. What is not known is if physical symptoms precede PTSD symptoms. We hypothesized that during combat, physical symptoms and anxiety are associated through learning. Then, physical symptoms after combat can trigger anxiety, thereby increasing PTSD symptoms.

Method: We tested whether physical symptoms preceded PTSD symptoms or vice versa using a prospective longitudinal study of reservist soldiers deployed to Iraq or Afghanistan (n=790). Physical symptoms were assessed at four time points (pre-deployment, immediately post-deployment, 3 months post-deployment and 1 year post-deployment). PTSD symptoms (PCL-C) were assessed at the last three time points. A measure of negative affect was used to account for anxiety symptoms at pre-deployment. The data were analyzed using a cross lag panel model.

Results: Greater physical symptom severity was associated with more PTSD symptoms at each of the three subsequent waves ($\beta=.15, .15, .28$; all $ps<.05$). At only one time point were PTSD symptoms (immediately post-deployment) associated with greater physical symptoms at the next wave (3 months post-deployment; $\beta=.28, p<.05$).

Discussion: To our knowledge, this is the first study to show that increased physical symptoms can precede increased PTSD symptoms. We will discuss implications and limitations of this work for psychological theory and treatment, namely early identification of Veterans who may go on to have clinically significant PTSD symptoms.

CORRESPONDING AUTHOR: Lisa M. McAndrew, PhD, WRIISC, VA NJHCS, East Orange, NJ, 08071; lisa.mcandrew@va.gov

A PROSPECTIVE ANALYSIS OF STIGMA AS A PREDICTOR OF DEPRESSION TREATMENT PREFERENCES, MENTAL HEALTH TREATMENT ENGAGEMENT AND CARE QUALITY

Duncan Campbell, PhD,¹ Laura Bonner, PhD,² Cory Bolkan, PhD,³ Andy Lanto, MA,⁴ Kara Zivin, PhD,⁵ Thomas Waltz, PhD,⁶ Klap Ruth, PhD,⁴ Rubenstein Lisa, MD, MSPH⁴ and Chaney Edmund, PhD²

¹University of Montana, Missoula, MT; ²VA Puget Sound, Seattle, WA; ³Washington State University Vancouver, Vancouver, WA; ⁴VA Greater Los Angeles, Los Angeles, CA; ⁵VA Ann Arbor, Ann Arbor, MI and ⁶Eastern Michigan University, Ypsilanti, MI.

Stigma is often cited as a reason why people with depression avoid treatment or seek treatment in primary care (PC) rather than specialty mental health (SMH) settings. Despite stigma's characterization as a treatment barrier, few studies have tested explicitly the prospective relationships between stigma and actual care engagement. In a secondary analysis of a longitudinal dataset including 761 VA PC patients with probable major depression, we defined stigma by asking whether patients would accept a depression label and tested stigma's concurrent and prospective relationships with patients' depression treatment preferences, depression care behavior, and depression treatment adequacy. Results indicated that a sizeable minority (8%) of PC patients with depression reported stigma at baseline. In a series of adjusted logistic regression analyses, patients who reported stigma were less likely to prefer depression treatment from SMH providers (psychiatrists: OR=0.27, 0.15-0.49, $p<.001$; psychologists/social workers: OR=0.31, 0.18-0.54, $p<.001$). Presence of stigma at baseline predicted lower likelihood of medication use for an emotional problem at 6 months (OR=0.19, 0.09-0.40, $p<.001$), lower likelihood of care from a SMH provider (OR=0.23, 0.10-0.52, $p<.001$) and care in a SMH clinic (OR=0.19, 0.07-0.50, $p<.001$) between baseline and 6 months, and lower likelihood of adequate depression care (≥ 4 therapy visits and/or antidepressants) at 6 months (OR=0.24, 0.10-0.55, $p<.001$). These results indicate that stigma likely plays a significant role in many patients' choices about care engagement and treatment adequacy. Finally, because patients who experience stigma might avoid SMH care but still seek treatment in PC, these results reaffirm the importance of PC-Mental Health integration efforts to support depression management.

CORRESPONDING AUTHOR: Duncan Campbell, PhD, Psychology, University of Montana, Missoula, MT, 59812; duncan.campbell@umontana.edu

IMPACT OF A QUALITY IMPROVEMENT PROGRAM ON QUALITY OF LIFE IN HEART FAILURE: THE VALOR IN HEART FAILURE STUDY

Jennifer P. Friedberg, PhD,^{1,2} Sangmin Jung, MEd,¹ Rohima Begum, MPH,¹ Maria Antonia Rodriguez, PhD,¹ Binhuan Wang, PhD,² Yixin Fang, PhD² and Sundar Natarajan, MD, MSc^{1,2}

¹VA New York Harbor Healthcare System, New York, NY and ²NYU School of Medicine, New York, NY.

Heart failure (HF) is associated with high mortality and poor quality of life (QOL). Adherence to medications and dietary recommendations is low in HF patients and often is due to environmental, patient and provider factors. We evaluated whether a quality improvement program (QIP) could improve QOL in HF patients compared to current best practice (CBP) using a quasi-experimental prospective pre-test post-test design. Inpatients with HF in the pre-test phase received CBP during and following discharge. Those in the post-test phase received a QIP that included a discharge checklist that coordinated care from different disciplines, structured care during the post-discharge visit, and 3 monthly counseling calls to promote medication and diet adherence based on the Transtheoretical Model and Prospect Theory along with checklists to self-monitor their symptoms and adherence behaviors. Patients in both phases completed the SF-36 to assess quality of life at 3 months post-discharge. We enrolled 136 inpatients with HF (68 in the CBP pre-test group and 68 in the QIP post-test group.) There were no baseline differences between the two groups. The median physical component scores were 31.61 for CBP and 35.55 for QIP at 3 months. Additionally, median physical role functioning scores were 50.00 for CBP and 53.13 for QIP, while median general health scores were 41.00 for CBP and 57.00 for QIP at 3 months. Wilcoxon rank sum tests revealed that physical component, physical role function, and general health scores were significantly higher (indicating better QOL) in QIP compared to CBP at 3 months (p-values= 0.048, 0.046, and 0.009, respectively). A comprehensive behavioral intervention targeting patient adherence to medication and diet through counseling and checklists as well as provider behavior shows promise in improving general health in patients with HF, who typically report low QOL. Physical functioning may also potentially be improved by this type of intervention.

CORRESPONDING AUTHOR: Jennifer P. Friedberg, PhD, VA New York Harbor Healthcare System/NYU School of Medicine, New York, NY, 10010;
jennifer.friedberg@nyumc.org

EXAMINING THE EFFECT OF A 'GIST-BASED' COLORECTAL CANCER SCREENING INFORMATION LEAFLET: A MULTI-CENTRE RANDOMISED CONTROLLED TRIAL

Samuel G. Smith, BSc, MSc,^{1,2} Rosalind Raine, PhD,³ Wardle Jane, PhD¹ and Christian von Wagner, PhD¹

¹Epidemiology and Public Health, University College London, London, United Kingdom;

²General Internal Medicine and Geriatrics, Northwestern University, Chicago, IL and

³Applied Health Research, University College London, London, United Kingdom.

Uptake of colorectal cancer (CRC) screening is low, particularly among deprived groups. Simplifying the content of information materials used to convey the screening offer may help to address this problem. Fuzzy Trace Theory suggests complex information is transformed into its simplest form (gist) when it is encoded to memory. To reduce the cognitive burden of this process and improve decision-making, simplified CRC screening information using a gist-based style was designed. This study examined the effect of the gist leaflet on screening intention, knowledge and perceived risk among low and high numeracy groups.

Men and women (age 45-59) registered in one of four general practices in deprived areas of the UK were asked to complete a questionnaire after reading standard information about CRC screening (standard group, n=2216) or standard information plus a gist leaflet (gist group, n=2236).

Questionnaires were returned by 964 (21.9%) invitees. Most (93.0%) respondents read the information materials, but those with low numeracy was less likely to do so ($p<.001$). The gist group had higher levels of knowledge ($p<.01$), but no differences were observed in perceived risk or intention to be screened ($p>.05$). Low numeracy respondents had significantly lower levels of intention ($p<.05$) and knowledge ($p<.001$), but not perceived risk ($p>.05$). Numeracy level did not moderate the effect of the intervention for any outcome ($p>.05$).

This randomised community-based trial provided comprehensive socio-cognitive responses after exposure to two different health communication materials. The higher knowledge scores among high and low numeracy respondents in the gist group suggest the gist leaflet may reduce the cognitive burden of the screening decision. The low response rate limits the extent to which these data can be used to predict whether the gist leaflet will reduce inequalities in screening uptake.

CORRESPONDING AUTHOR: Samuel G. Smith, BSc, MSc, Epidemiology and Public Health, University College London, London, wc1e 7hb; samuel.smith@ucl.ac.uk

IGF-1 PREDICTS IMPROVED MEMORY FUNCTION IN BREAST CANCER PATIENTS RECEIVING CHEMOTHERAPY

Michelle C. Janelins, PhD, MPH,¹ Song Yao, PhD,² Karen M. Mustian, PhD, MPH,¹ Luke J. Peppone, PhD, MPH,¹ Charles E. Heckler, PhD, MS,¹ Christine B. Ambrosone, PhD² and Gary R. Morrow, PhD, MS¹

¹University of Rochester, Rochester, NY and ²Roswell Park Cancer Institute, Buffalo, NY.

Background: Chemotherapy-related memory impairment (CRMI) occurs in up to 75% of breast cancer (BC) patients during chemotherapy and negatively affects quality of life. Insulin-like growth factor 1 (IGF-1) and its binding proteins (BPs; IGFBP 1-3) play a role in maintaining and improving memory function; however, it is unknown whether IGF proteins help to prevent CRMI. We previously reported that IGF-1 restores neurogenesis—a process important for memory—in mice treated with chemotherapy; this is the first study to extend these findings into BC patients where we hypothesized that higher pre-chemotherapy IGF-1 levels predict improved memory following treatment. **Methods:** 49 BC patients (mean age=51.2 yrs, 44%≥4 yr college degree, 94% previous surgery) completed a neuropsychological test battery (CANTAB) and provided a fasted blood sample at pre- and post-chemotherapy. The CANTAB battery included a match-to-sample memory task with measures of total percent correct, latency to correct response, and time-adjusted percent correct. Serum was analyzed via multiplex assays for IGF-1, and IGFBPs 1-3. General linear modeling (GLM) was used to determine whether baseline IGF-1 and IGFBPs predicted improved memory function (from pre- to post-chemotherapy). **Results:** GLM, adjusting for age and education, indicated that higher pre-chemotherapy IGF-1 and IGFBP1, but not IGFBP 2 and 3, were associated with improved total percent correct ($p<0.15$). Higher pre-chemotherapy IGF-1 was associated with improved lower latency to a correct response ($p<0.05$). Overall, higher pre-chemotherapy IGF-1 was associated with improved total time-adjusted percent correct ($p<0.05$). **Conclusions:** This pilot study suggests that higher levels of pre-chemotherapy IGF-1 may be protective against CRMI in BC patients during chemotherapy. While these results need to be confirmed in a larger study, they suggest that interventions that increase IGF (e.g. exercise) may help improve CRMI.

Funding:K07CA168886, U10CA37420, Wilmot/Roswell Collaborative Grant

CORRESPONDING AUTHOR: Michelle C. Janelins, PhD, MPH, University of Rochester, Rochester, NY, 14642; michelle_janelins@urmc.rochester.edu

EXAMINING MODERATORS OF 2-YEAR SMOKING TEMPTATIONS TRAJECTORIES IN ADULT SMOKERS

Hui-Qing Yin, MA,^{1,2} Joseph S. Rossi, PhD,^{1,2} Hisanori Kobayashi, PhD¹ and Colleen A. Redding, PhD^{1,2}

¹Cancer Prevention Research Center, University of Rhode Island, Kingston, RI and

²Department of Psychology, University of Rhode Island, Kingston, RI.

The situational temptations for smoking scale measures the degree of temptation a person feels to smoke across different situations, and is strongly related to observable smoking behavior. This study used latent growth curve modeling to examine the trajectory of smoking temptations (TEMPT) in a population-based sample of adult smokers enrolled in a randomized cessation trial ($N = 2924$, age range 18-82 years, 68% white, 55% female), and to explore factors associated with differential trajectories of TEMPT. The TEMPT outcome variable was assessed at baseline, 1-, and 2-years follow-up using the 12-item temptations measure with 4 subscales (Positive/Social, Habit Strength, Negative/Affective, & Weight Concerns) that has been validated in adult and adolescent smokers. The unconditional growth model [$\chi^2(3) = 19.35$, CFI = .99, RMSEA = .04] supported a significant decrease in TEMPT over time in the full sample ($\mu_{\text{slope}} = -0.71$, $p < .001$). Multiple-groups analyses of the unconditional model revealed slightly different mean slopes across baseline cessation stage ($\Delta\chi^2(2) = 17.91$, $p < .001$), and an expected main effect of baseline smoking severity on the initial level of TEMPT ($\Delta\chi^2(2) = 159.60$, $p < .001$). Next, a conditional growth model was tested which included treatment condition (treatment or control) as a time-invariant covariate. The conditional model also fit the data well [$\chi^2(4) = 19.83$, CFI = .99, RMSEA = .04], and found that TEMPT decreased significantly after controlling for treatment condition ($\mu_{\text{slope}} = -0.41$, $p < .01$). In addition, the direct path from treatment to the slope factor was significant ($\gamma = -0.15$, $p < .01$), indicating that treatment led to a much steeper decrease in TEMPT (Cohen's $d = -0.38$). Finally, multiple-groups analyses of the conditional model suggested that although this large treatment effect size was invariant across baseline cessation stage ($\Delta\chi^2(2) = 1.33$, $p = .52$), the effect was consistent only in light and moderate, but not heavy smokers ($\Delta\chi^2(2) = 5.25$, $p = .07$).

CORRESPONDING AUTHOR: Hui-Qing Yin, MA, University of Rhode Island, Kingston, RI, 02881; hqyin@my.uri.edu

THE LIVING LEGACY OF DIABETES: INTERGENERATIONAL INFLUENCES ON DIABETES CARE IN LATINO FAMILIES

Elizabeth A. Pyatak, PhD, OTR/L, Daniella Florindez, BA, Kristine Carandang, MA, OTR/L, Shain Davis, OTD, OTR/L, Anne Peters, MD and Marc J. Weigensberg, MD

University of Southern California, Los Angeles, CA.

Background: Although there is extensive research on the relationship between family environment and diabetes care in pediatric populations, literature on the family environment as it relates to adults with type 2 diabetes (T2D) remains limited. In particular, few studies have examined how one's diabetes care may be influenced by family members who also have diabetes. We describe findings of a study investigating this issue among Latino young adults (YAs) with T2D and their cohabiting family members.

Methods: Eight Latino YAs (age 20.6 ± 3.5 yrs; A1C 7.4 ± 1.7 ; duration of T2D 3.9 ± 4.8 yrs) each completed 4-8 semi-structured interviews focusing on self-care strategies, understandings of diabetes, and social support. Following an emergent finding of the influence of family members' diabetes care on the YAs' own care, the study protocol was modified to include family members. Eleven family members, nominated by the YAs, completed interviews focused on their own diabetes care, and roles in supporting the YA. Interviews were analyzed thematically through iterative coding and discussion at weekly meetings.

Results: Family members had a high prevalence of diabetes and associated complications. Seven YAs had at least one parent with diabetes; five parents had complications such as vision loss or amputation. YAs' diabetes care was both supported and hindered by the influence of family members. Cross-generational influences on self-care were categorized in four themes: (1) mealtime conflicts and strategies; (2) health behaviors being contingent on others' participation; (3) shaping of knowledge and expectations (expectations for the future, persistence of misinformation); and (4) strategies for support (miscarried helping, bidirectional support).

Conclusions: YAs in households where parents and other family members also have diabetes have unique barriers and supports for managing diabetes. Understanding how family context influences YAs' diabetes care may support the development of effective diabetes care strategies in this population.

CORRESPONDING AUTHOR: Elizabeth Pyatak, PhD, OTR/L, Division of Occupational Science and Occupational Therapy, University of Southern California, Los Angeles, CA, 90089-9003; beth.pyatak@usc.edu

PREDICTING FUTURE SMOKING AND ALCOHOL STATUS FROM PREVENTION SUBTYPES

Steven F. Babbin, MA, Wayne F. Velicer, PhD, Colleen A. Redding, PhD, Andrea L. Paiva, PhD, Karin Oatley, MA, Kathryn Meier, MPH and James O. Prochaska, PhD

University of Rhode Island, Kingston, RI.

Substance abuse interventions tailored to the individual level have produced effective outcomes for a wide variety of behaviors. One approach to tailoring employs cluster analysis to identify prevention subtypes that represent different attitudes about substance use. In this study, prevention subgroups were tested for their ability to predict future behavior. Analyses were performed on a sample of 6th graders from 20 Rhode Island middle schools involved in a 36-month tailored intervention for smoking and alcohol. Most adolescents reported being in the Acquisition Precontemplation (aPC) stage: not smoking or not drinking and not planning to start in the next six months. For both smoking and alcohol, the baseline aPC sample (N=3068) was randomly split into five subsamples. Cluster analysis was performed within each subsample based on three substance acquisition variables: Pros and Cons (from Decisional Balance scales), and Situational Temptations Scale. Across all subsamples for both smoking and alcohol, the following four clusters were identified: (1) Most Protected (low Pros, high Cons, low Temptations); (2) Ambivalent (average Pros, Cons, and Temptations); (3) Risk Denial (average Pros, low Cons, average Temptations); and (4) High Risk (high Pros, low Cons, high Temptations). Baseline cluster membership was compared to smoking and alcohol status at 12, 24, and 36 month assessments. At all time points, for both smoking and alcohol, the proportion remaining in aPC was consistently the highest for Most Protected, and lowest for High Risk; the proportion that started smoking/drinking was consistently the lowest for Most Protected and the highest for High Risk. For example, at 36 months 5.5% of the Most Protected for smoking started smoking compared to 12.7% of the High Risk, and 10.5% of the Most Protected for alcohol use started drinking compared to 23.4% of the High Risk. The ability of the prevention subgroups to predict future smoking and alcohol use provides evidence of the utility and predictive validity of these subtypes.

CORRESPONDING AUTHOR: Steven F. Babbin, MA, University of Rhode Island, Kingston, RI, 02881; sbabbin@gmail.com

ACCEPTABILITY OF A SALON-BASED INTERVENTION TO PROMOTE COLONOSCOPY SCREENING AMONG AFRICAN-AMERICAN WOMEN: THE PERSPECTIVE OF SALON STAFF

Tiffany Floyd, PhD,¹ Jessica Rao, MPH,¹ Katherine DuHamel, PhD² and Lina Jandorf, MA³

¹Department of Psychology, The City College of New York, New York, NY; ²Department of Psychiatry and Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY and ³Cancer Prevention and Control, Icahn School of Medicine at Mount Sinai, New York, NY.

Efficacious interventions are needed to reduce the excess burden of colorectal cancer (CRC) among African-Americans (AAs). The present qualitative study therefore sought to determine acceptability of a salon-based intervention to encourage colonoscopy screening (CS) - an efficacious method for the prevention and early detection of CRC - among AA women. Six focus groups were conducted with beauty salon owners and stylists (N=30; 97% female) in a predominantly AA section of NYC. Questions addressed three major areas: (1) acceptability of the proposed intervention, (2) preferences regarding intervention content, and (3) acceptability of having salon staff members trained to deliver the intervention to clients. Thematic analysis of the focus groups resulted in several core themes, including: (1) Beauty and health are a natural fit: Salon staff viewed attending to one's appearance and attending to one's health as parts of the broader issue of self-care, therefore making salons an appropriate venue to address either issue, (2) Facts about CRC epidemiology and prevention are particularly important: Certain epidemiological facts (e.g., that women, too, are at risk for CRC) and the fact that CRC can be prevented were deemed particularly important in motivating AA women to pursue CS, and (3) Given sufficient support, salon staff can deliver the intervention: Salon staff expressed willingness to deliver a CS-promotion intervention, but also stressed the need for ample training and support. In sum, the findings indicate strong levels of acceptability for a beauty salon-based, salon staff-delivered CS promotion intervention for AA women. The findings will aid in the development of the proposed salon-based intervention, which has the ultimate goal of reducing extant disparities in CRC morbidity and mortality.

CORRESPONDING AUTHOR: Tiffany Floyd, PhD, The City College of New York, New York, NY, 10031; tfloyd@ccny.cuny.edu

INCREASING COLON CANCER SCREENING IN PRIMARY CARE AMONG AFRICAN AMERICANS

Ronald Myers, PhD,¹ Randa Sifri, MD,¹ Constantine Daskalakis, ScD,¹ Melissa A. DiCarlo, MPH, MS,¹ James Cocroft, MA,¹ Christopher Minnick, MSW² and Sally Vernon, PhD³

¹Thomas Jefferson University, Philadelphia, PA; ²Albert Einstein Healthcare Network, Philadelphia, PA and ³University of Texas Health Science Center, Houston, TX.

Purpose: Low colorectal cancer (CRC) screening rates among African Americans (AAs) contribute to higher CRC mortality and lower CRC survival among AAs than whites. We conducted an American Cancer Society-funded randomized controlled trial to determine if a preference-based mail and telephone navigation intervention could increase CRC screening adherence among AAs.

Methods: The trial included AA patients who were 50-75 years old, eligible for CRC screening, and received care through primary care practices in Philadelphia. Eligible patients (n=764) were consented and surveyed by telephone. Respondents were randomized to a Standard Intervention (SI) Group (n=380) or a Tailored Navigation Intervention (TNI) Group (n=384). The SI Group was sent colonoscopy instructions and a stool blood test kit, followed by a reminder. The TNI Group received mailed screening contacts keyed to preference and telephone navigation, and a reminder. A 6-month survey was administered, and medical records were reviewed to determine participant adherence status. Multivariable analyses were performed to assess intervention impact on adherence. **Results:** Background characteristics of participants were distributed as follows: female (68%), 50-59 years of age (62%), < high school education (59%), and unmarried (69%). At 6 months after random assignment, CRC screening adherence was significantly higher in the TNI Group (38%) than the SI Group (24%), (OR=2.03, 95% CI: 1.46, 2.81).

Conclusions: Exposure to the preference-based mail and telephone navigation intervention increased CRC screening adherence significantly compared to the mailed intervention. Additional research is needed to identify predictors of screening among AAs. Furthermore, studies should be conducted to modify the intervention to maximize impact, and assess intervention impact on screening disparity between whites and AAs.

CORRESPONDING AUTHOR: Melissa A. DiCarlo, MPH, MS, Medical Oncology, Thomas Jefferson University, Philadelphia, PA, 19107; melissa.dicarlo@jefferson.edu

WEIGHT STATUS AND OUTCOME IN BEHAVIORAL WEIGHT LOSS INTERVENTIONS: WHAT CAN COGNITIVE NEUROSCIENCE TELL US THAT THE CLIENT CANNOT?

Stephanie M. Manasse, BA,¹ Alyssa J. Matteucci, BS,¹ Laura A. Berner, MS,¹ Stephanie G. Kerrigan, BA,¹ Evan M. Forman, PhD,¹ Meghan L. Butryn, PhD¹ and Anthony C. Ruocco, PhD²

¹Drexel University, Philadelphia, CA and ²University of Toronto, Toronto, ON, Canada.

Research suggests that overweight and obesity are associated with deficits in executive function (EF). Theoretically, EF has implications for self-regulation, eating-related decision-making, and use of behavioral strategies for weight loss in the modern food environment. Typically, self-report measures have been used to identify those who respond to behavioral weight loss interventions (BWLI), the current gold standard treatment for obesity; however, given that individuals may not have insight into their own EF deficits, objective measures of EF (e.g., neuropsychological tests) may be more useful for predicting outcome in BWLIs. In the current study, overweight and obese women (BMI > 27 kg/m², n = 77) completed the Behavior Rating Inventory of Executive Function (BRIEF; a self report measure of EF) and a neuropsychological battery at baseline of a BWLI. IQ was used as a covariate in analyses. None of the BRIEF subscales (Behavioral Regulation Inventory, Metacognition Index, Global Executive Composite) predicted either concurrent BMI or weight at week 16 of the BWLI, after controlling for week 1 weight (p s=.35-.67, η^2p = .00-.01). However, objective measures of EF, specifically working memory (WM) capacity (η^2p = .06) and cognitive flexibility, (η^2p =.06) inversely predicted concurrent BMI. Additionally, objective measures of WM (η^2p =.15), delay discounting (η^2p =.10), and planning ability (η^2p = .06) were strong negative predictors of weight at week 16 of the BWLI after controlling for weight at week 1. Results indicate that neuropsychological tests are more useful than self-report EF in predicting weight loss in BWLIs. Further research using objective, rather than self-report, measures of neuropsychological constructs relevant to weight loss, may be essential to guiding intervention development and treatment recommendations that promote long-term outcome for overweight and obese populations.

CORRESPONDING AUTHOR: Stephanie M. Manasse, BA, Drexel University, Philadelphia, CA, 19107; stephmanasse@gmail.com

TREATING PLANNING AS A DISCRETE BEHAVIOUR TOWARDS PHYSICAL ACTIVITY

Chetan D. Mistry, MSc,^{1,2} Ryan E. Rhodes, PhD,² Shane N. Sweet, PhD³ and Amy E. Latimer-Cheung, PhD¹

¹Kinesiology, Queen's University, Kingston, ON, Canada; ²Exercise Science, University of Victoria, Victoria, BC, Canada and ³Kinesiology, McGill University, Montreal, QC, Canada.

The construct of planning can mediate the physical activity intention-behaviour relationship. To date, predictors of planning have been operationalized for physical activity participation. Because planning can be a behaviour in its own right, planning may have antecedents that are specific for planning (e.g., intentions to plan) and thus independent of physical activity. The purpose of the present study was to determine if intentions *to plan* were a better predictor of planning for physical activity than intentions *to be* physically active. Participants were inactive adults ($n=334$, $M_{age}=31.0\pm5.2$ yrs) with intentions to be physically active. Participants self-reported their physical activity, physical activity intentions, planning behaviour and planning intentions at baseline (T0), one (T1) and two months (T2). Hierarchical regressions were conducted to test our hypothesis. Controlling for planning at T0, intentions to plan for physical activity at T0 were a significant predictor of planning at T1, $r^2\Delta=0.024$, $\beta=0.17$, $p<.05$. Similarly, intentions to plan for physical activity at T1 were a significant predictor of planning at T2 after controlling for planning at T1, $r^2\Delta=0.055$, $\beta=0.27$, $p<.05$. Controlling for planning at T0 and T1, intentions to be physically active at T0 and T1 were not predictors of planning at T1 and T2, $ps<.05$. The regression coefficients for intentions to plan were significantly larger than the coefficients for intentions to be active, both for T1 $t(334)=3.82$, $p<.05$ and T2 $t(334)=4.06$, $p<.05$. Our results suggest motivation towards planning may be distinct from motivation towards physical activity. Attention should be directed towards theory-based antecedents of planning independent of motivation for physical activity. Future investigations should test if changes in intentions to plan correspond with changes in physical activity.

CORRESPONDING AUTHOR: Chetan D. Mistry, MSc, Exercise Sciences, University of Victoria, Victoria, BC, V8P 5C2; chet@uvic.ca

TIME PERSPECTIVE AS A MODERATOR OF DAILY PERCEPTIONS OF EXERCISE BENEFITS AND SATISFACTION WITH REGULAR EXERCISE

Julie L. Kangas, MA and Austin S. Baldwin, PhD

Psychology, Southern Methodist University, Dallas, TX.

Time perspective (TP) is an individual difference that accounts for how people cognitively represent past, present, and future experiences. We hypothesized that individual differences in TP would moderate the strength of the association between people's perceptions of specific exercise benefits and their satisfaction with regular exercise - an important predictor of long-term regular exercise. Specifically, we predicted that the satisfaction of people with high present TP would be more strongly associated with present-focused exercise benefits (i.e., current feelings of relief and accomplishment) and the satisfaction of people with high future TP would be more strongly associated with future-focused exercise benefits (i.e., preventing health problems).

Previously inactive participants (N=116; mean age: 34.5; 29.3% overweight, 34.5% obese; 75.9% female; 42.2% Caucasian) initiated self-directed regular exercise and, for the first four weeks, completed daily assessments about their experiences. Mixed linear models were used to test the hypotheses.

As predicted, present TP moderated the association between satisfaction with exercise and daily feelings of relief, $p=.003$, and accomplishment, $p<.001$, such that satisfaction was more strongly associated with these exercise benefits for people with high present TP than those with low present TP. Future TP did not moderate these associations, $p=.37$ and $p=.19$, respectively.

Future TP moderated the association between satisfaction and the perception of making progress in preventing health problems, $p=.03$, such that satisfaction was more strongly associated with perceiving progress in preventing health problems for people with high future TP than those with low future TP. Present TP did not moderate this association, $p=.26$.

This pattern of results suggests that TP influences the specific experiences that people attend to when determining their satisfaction with regular exercise. Theoretical and clinical implications will be discussed.

CORRESPONDING AUTHOR: Julie L. Kangas, MA, Psychology, Southern Methodist University, Oak Leaf, TX, 75154; jkangas@smu.edu

AEROBIC AND COGNITIVE EXERCISE OVER TIME: VIRTUAL VERSUS OUTDOOR CYCLING

Jason Cohen, BS,² Emily Rudolph, BS¹ and Cay Anderson-Hanley, PhD¹

¹Psychology & Neuroscience, Union College, Schenectady, NY and ²Kinesiology & Community Health, University of Illinois, Urbana-Champaign, IL.

BACKGROUND: Regular physical exercise is well known to have significant physical and cognitive benefits. Less is known about mental exercise, but some research has shown added cognitive benefit from combining mental stimulation with physical exercise. The current study examined the role of an enriched environment via virtual versus outdoor stimulation as experienced while cycling. It was hypothesized that outdoor cycling would yield greater cognitive benefit than artificially created virtual tours. It was hypothesized that after two months of cycling participants would show an improvement in executive function tasks based on the environmental richness component of outdoor cycling, and this benefit would match or exceed that of virtual reality enhanced stationary bike.

METHODS: Thirty adults were enrolled in a six-week exercise study, 24 completed the randomly assigned exercise (virtual v. outdoor), 3-5 times per week for at least 20 minutes per ride. Executive functioning was assessed before and after six weeks of cycling (Trails, Stroop, and Digits Backwards).

RESULTS: Participants as a whole made significant improvements in Trails and Stroop testing following the six week period of physical exercise. Outdoor cyclists did improve significantly more than virtual cyclists on Digits Backwards ($p = .05$), but there were no differences between the two groups on the other two tests of executive function.

CONCLUSIONS: After six weeks of cycling either outdoors or on a stationary bike with a virtual reality display, executive function gains were similar on two tests of executive function (Trails and Stroop). However, outdoor cyclists had significantly great benefit on one test of executive function (Digits Backwards). Additional research is needed to clarify seemingly differential impacts of exercising in virtual and outdoor environments.

CORRESPONDING AUTHOR: Cay Anderson-Hanley, PhD, Psychology, Union College, Schenectady, NY, 12308; andersoc@union.edu

A SEXUAL HEALTH EDUCATION INTERVENTION IMPACTS SEXUAL FUNCTION AND PSYCHOSOCIAL ADJUSTMENT IN MALE RECTAL CANCER PATIENTS

Tammy A. Schuler, PhD,¹ Errol Philip, PhD,¹ Christian Nelson, PhD,¹ John Mulhall, MD,¹ Lina Jandorf, MA,² Anne Reiner, MS,¹ Ray Baser, MPH¹ and Katherine DuHamel, PhD^{1,2}

¹Memorial Sloan-Kettering Cancer Center, NY, NY and ²Mount Sinai School of Medicine, NY, NY.

Background: Post-treatment male rectal cancer patients show high sexual dysfunction rates. We pilot tested a sexual health education intervention for male rectal cancer patients. We hypothesized intervention arm (CSI-SH-M) men would improve more across sexual function/psychosocial adjustment than men receiving usual care (UC). **Method:** Post-treatment patients (N=71) were stratified by stoma/chemotherapy status and randomized to: 1) 4 1-hour sexual health education sessions and 3 follow-up calls aimed at bolstering sexual function and partner communication, and providing other resources (e.g., referrals); or 2) UC. Men completed sexual function [International Index of Erectile Function (IIEF)] and psychosocial adjustment [Self-Esteem and Relationship Questionnaire (SEAR), Sexual Bother Questionnaire (SB), and Impact of Events Scale (IES-R)] measures at enrollment (baseline), 4 months post-baseline, and 8 months post-baseline. Differences in mean score changes between assessments determined treatment effects, the magnitude of which were assessed by Cohen's d effect sizes. **Results:** The average man was middle-aged, Caucasian, and married. Most had Stage III cancer and received an operation, chemotherapy, and radiation. CSI-SH-M men improved more than UC men on IIEF from baseline to both 4 and 8 months with improvements most apparent from baseline to 4 months [e.g., Total (d=1.22) and Sexual Desire subscale (d=1.37)]. CSI-SH-M men improved more than UC men on SB Total from baseline to 4 (d=-1.44) and 8 months (d=-0.20). CSI-SH-M men also improved more on SEAR from baseline to 4 months and 4 to 8 months, with 4- to 8-month effects being larger [e.g., Total (d=1.10) and Confidence (d=1.14)]. Finally, CSI-SH-M men improved more than UC men on IES-R at both 4 and 8 months. **Conclusion:** Pilot data showed initial promise in a brief sexual health education intervention for this population.

CORRESPONDING AUTHOR: Tammy A. Schuler, PhD, Department of Psychiatry & Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY, 10022; schulert@mskcc.org