Family Realities and Childhood Obesity Prevention in Low-Income Families: Testing and Refining the Family Ecological Model

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Families and Obesity Prevention

- Focusing on families is an important strategy for obesity prevention
- Yet family-based programs have shown disappointing results (Stice, Shaw & Marti, 2006)
- The minimal engagement of families in programs, and a failure to address the broader family ecology may explain their lack of success.
Family Ecological Model

PARENTING

Knowledge and Beliefs about behaviors that educe/promote obesity risk behaviors

Accessibility of healthy and unhealthy eating and physical activity options

Modeling of healthy and unhealthy eating and activity behaviors

Policy and the Media
- School PE and food policies
- Advertising to children
- Nutrition labeling

Family Demographics
- Family income
- Single versus two parent household
- Ethnicity
- Education

Community Characteristics
- Neighborhood walkability
- Crime levels
- Access to healthy foods and recreational spaces

Child Characteristics
- Age
- Gender
- Weight status
- Athletic competence

Organizational Characteristics
- School environment
- Job characteristics
- Work demands

Goals of the Study

1. Examine whether the family ecology is appropriately articulated through the FEM.

2. Assess the utility of the FEM in guiding the development of a family-centered preventive intervention for obesity.

3. Use the data collected to revise the FEM to improve its utility for family-centered obesity prevention research.
Research Context

Communities for Healthy Living Program (CHL)
Kirsten Davison and Janine Jurkowski (co-PIs)
Hal Lawson, Sibylle Kranz, Lawrence Schell,
Glenn Deane (co-I’s)

OBJECTIVES:

1. Utilize Community-based Participatory Research (CBPR) to develop and pilot test a family-centered obesity prevention program for children enrolled in Head Start.

2. Incorporate the resulting intervention into systems of care (e.g., Head Start, WIC, pediatric care)
Phase 1

Community Advisory Board
– Majority are parents/grandparents of children in Head Start

Participate in all aspects of project
– Developed mission, logo, **topics to explore in the community assessment**, data collection (IRB trained)
– Recruitment, attending conferences, attending research team meetings
Phase 2

Community Assessment
- Focus groups
- Key informant interviews
- Photovoice
- 24 hour dietary recall (children)
- 7-day accelerometry (children)
- Surveys; follow-up interviews

Phase 3

Utilizing results from the community assessment, develop and implement a family-centered obesity prevention program
Methods

**Self-report Survey:** Household relations, utilization of community-based programs, parents’ viewpoints on healthy lifestyles and childhood obesity.

**Focus Groups:** Impact of having multiple children across a wide age range on parenting.

**Photovoice:** Document factors that make it easy or difficult to take care of their family.

**Windshield surveys:** While on a driving tour of their neighborhood, parents answered questions about their neighborhood (e.g., types of stores available, general upkeep).
Data Analysis

Quantitative data
Descriptive statistics were generated

Qualitative data
Transcripts were reviewed by a member of the research team and a parent and coded based on the larger themes of the FEM.

Data compilation
The results were compiled across methodologies to provide summaries for each contextual dimension of the FEM.
Participants

Parents of preschool-aged children enrolled in Head Start (N=90); 91% female

Race/ethnicity:
- Non-Hispanic White (53%)
- Black or African American (20%)
- Hispanic Black (6%)
- Hispanic White (11%)
- Unknown/not reported (10%)

Number of participants per procedure:
- Survey N=57
- Focus groups N=25
- Photovoice N=8
- Windshield survey N=7

94% of participants completed one procedure
Family Ecological Model

Results: Family Demographics

Overall - the range of topics discussed was much broader than originally conceptualized in the FEM.

- 1 in 3 expressed concern about “sugar” in their families
- Can’t do what they know is right.
- Parent mental health; lack of time for themselves and a sense of disappointment with own life.
Results: Family Demographics

Life histories and cultural beliefs:

- Intergenerational pattern of child feeding.
- Parenting had changed over time as parents themselves matured.
- A skinny child has negative connotations for a parent.
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Results: Child Characteristics

• Number and age range of children the household.

• Differing developmental needs to juggle; TV in bedroom seen as a way to ensure appropriate content.

• Role of older siblings; caused much conflict, but also benefits.

• Oftentimes had a child with a special health care need
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Results: Organizational Characteristics

- Generally positive relationships with children’s teachers; shaped sense of being connected to Head Start.
- Wide variability in reliance on support systems provided by Head Start.
- Some Head Start policies (e.g., center closing times) caused much stress; difficult to manage the needs of multiple children, current job or consider a new job.
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Results: Community Characteristics

- Lack of trust for people in the neighborhood; didn’t want children associating with neighborhood kids
- Heightened concern for sexual predators
- Accessibility and safety of play spaces for children
- Accessibility and quality of supermarkets in neighborhoods
- Low performing schools and extended time in a car
Results: Community Characteristics

• Housing instability and insufficiency – chronic stress
• Access to quality healthcare – own history of healthcare created a sense of distrust
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Results: Policy and Media Factors

• Wide range of sources of health information – but most common source was the doctor

• By using public assistance programs, parents felt pigeon-holed into unsafe housing

• Reluctant to answer door through fear of Child Protective Services. Combined with other concerns - led to a reclusive lifestyle.
Reflecting on the FEM

• Consistent with the FEM, data identified specific family demographic, child, organizational, community and policy/media factors that affect parenting around healthy lifestyles.

• Results highlight the complexity of family life, particularly for low income families.

• Identified assets including older siblings, availability of other adults in household, positive relationships with teachers, knowledge of dangers in community and steps taken to protect their children.
Weaknesses identified

1. *Family demographics* is too narrow – broader conceptualization is needed.

2. Daily realities of low income families not clearly articulated.

3. While the FEM resulted in a wealth of information about families - gave limited insight into program development.

4. The element of time is missing.
**Family Ecology**

- **Family Demographics**
  - Family size
  - Family health risk factors
  - Ethnicity-cultural background
  - Generational poverty/income
  - Parent educational attainment

- **Child-specific**
  - Developmental needs
  - Child preferences
  - Peer characteristics & behaviors
  - Disability status

- **Organizational**
  - Quality of relationships with staff
  - Staff stability
  - Provision of quality services
  - Intersystem coordination

- **Community**
  - Neighborhood social capital
  - Accessibility/availability of community programs, healthy affordable foods, public transport
  - Safe housing, safe play areas
  - Quality/accessibility of health care

- **Media and Policy**
  - Public assistance policies
  - Health information sources
  - Marketing to young children

**Family Social and Emotional Context**

- **Family Knowledge and Social Norms**
  - Beliefs around food, PA, obesity
  - Distrust of health care providers
  - Food as reward/love
  - Knowledge of healthy lifestyles.
  - Self-efficacy for healthy lifestyles
  - Parenting efficacy

**Parenting Practices and Child Outcomes**

- **Parenting for Healthy Lifestyles**
  - Parents’ diet, PA, sedentary behaviors
  - Preparation of affordable, convenient foods
  - Eating at fast foods restaurants
  - Family meals
  - Facilitating active play/sport involvement
  - Rules for screen-based activities.

**Family Health Outcomes**

- **Parent Outcomes**
  - Mental health status
  - Weight/obesity status
  - Self-efficacy
  - Social integration
  - Civic engagement
  - Substance use/abuse
  - Health system involvement

- **Child Outcomes**
  - Weight status
  - Glucose tolerance; type II diabetes
  - Physical fitness
  - General health status
  - Asthma; sleep apnea
  - Mental health status
  - School attendance, engagement & performance
  - Peer group memberships
  - Intergenerational effects on parenting and health-related outcomes

**Social Disparities & Stress**

- Economic/employment stress
- Housing instability
- Food insecurity
- Social support and networking
- Chronic disruption of family routines and relationships
- Perceived control
- Disappointment about own life
- Older children as caregivers
- Adoption of survival/coping strategies
- Competing priorities overrule child obesity and risk behaviors

**Child(ren)’s Behaviors and Beliefs**

- Dietary, PA, screen-based behaviors;
- Self-efficacy for healthy lifestyles
- Knowledge about, and belief in importance of healthy lifestyle
- Preference for healthy foods
- Pursuit of physical activity and health-enhancing recreational activities.
Testable Hypotheses

1. Family-based or family-centered interventions are more likely to be successful, when components from first two columns are addressed (i.e., Family Ecology, Family Social and Emotional Context).

2. Positive program effects are more likely to be maintained when multiple family ecological factors are addressed.

Future work should continue to test and refine the FEM