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Name of Candidate: **Omni Cassidy, Master of Science in Medical and Clinical Psychology,**
08/04/2014

THESIS AND ABSTRACT APPROVED:

[Redacted Signature]
Marian Tanofsky-Kraft, Ph.D.
DEPARTMENT OF MEDICAL & CLINICAL
PSYCHOLOGY
Committee Chairperson

DATE:

8/13/14

[Redacted Signature]
Tracy Sbrocco, Ph.D.
DEPARTMENT OF MEDICAL & CLINICAL
PSYCHOLOGY
Thesis Advisor

8/14/14

[Redacted Signature]
Michele Carter, Ph.D.
DEPARTMENT OF MEDICAL & CLINICAL
PSYCHOLOGY
Committee Member (Adjunct)

8/4/14

A Socio-Ecological Conceptualization of Factors Promoting Excessive Weight
Gain in Rural African Americans Girls: Considerations for Adapting Interpersonal
Psychotherapy for the Prevention of Excessive Weight Gain

by

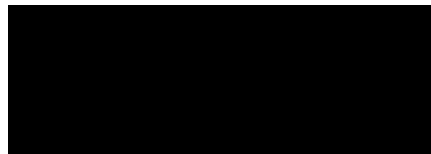
Omni Cassidy

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Omni Cassidy

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ABSTRACT

Title of Thesis: A Socio-Ecological Conceptualization of Factors Promoting Excessive Weight Gain in Rural African Americans Girls: Considerations for Adapting Interpersonal Psychotherapy for the Prevention of Excessive Weight Gain

Omni Cassidy, BA, 2014

Thesis directed by: Tracy Sbrocco, Ph.D., Assistant Professor, Department of Medical & Clinical Psychology

This thesis places—in broader context—data from a community-based qualitative study exploring disordered eating and obesity among rural African American girls in order to culturally adapt an obesity prevention program. Obesity rates are high, particularly in African American girls. Such high rates place these girls at greater risk of developing adverse obesity-related health comorbidities, such as type II diabetes and hypertension. With regard to rural youth, rates of obesity are often higher than youths living in urban settings. Limited data have explored the unique risks of obesity for rural African American girls who may be a vulnerable, high-risk group. While obesity and disordered eating prevention for rural African American girls is critical, efforts must be tailored to fit the given population. In doing so, researchers must carefully consider relevant, culturally specific factors precipitating obesity risk in these girls. Importantly,

such risk factors must extend beyond the individual and capture broader social, cultural, and political influences. Collaborating with community members through community-based participatory research (CBPR) may provide valuable insights regarding such factors and help improve acceptability and sustainability of the prevention program. Data will be presented from a CBPR qualitative study aimed to explore community members' perspectives on obesity, disordered eating behaviors, and an empirically supported excessive weight gain prevention program. The thesis concludes with a discussion of the various levels of risk factors highlighted by community participants and describes how data will be used to adapt the prevention program manual.

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CHAPTER 1: Introduction

OBESITY IN AFRICAN AMERICAN GIRLS AND RURAL AFRICAN AMERICAN YOUTH

Obesity rates among U.S. adults (44) and youth (90) have risen substantially over the last several decades. While rates have plateaued for specific groups, increased rates persist among African American youth, particularly girls (90). An estimated 40% of African American youth are overweight (body mass index, BMI, kg/m², 85-95th percentile for age and sex) or obese (BMI $\geq$ 95th percentile for age and sex) (25) compared to 28% of Caucasian children and adolescents (90). What's more, African American girls are more likely to become obese relative to their Caucasian counterparts (72; 90). Such high obesity rates likely predict adult obesity (42; 138), potentially contributing to high rates in African American women (44). Furthermore, adolescent obesity places individuals at increased risk for many adverse health outcomes, including type II diabetes, hypertension, and some cancers (93). Therefore, excessive weight gain prevention in African American girls is paramount.

With regard to rural youth, overweight and obesity rates range from 26 – 45% (51; 78; 145). In rural African American youth, in particular, data suggests significantly higher obesity rates compared to their urban counterparts (69). In a study comparing urban and rural obesity rates utilizing the U.S. Health Behavior in School-Aged Children survey, 26% of rural African American youth were considered obese compared to 16% of urban youth (69). These high obesity rates coupled with rural African Americans' limited access to healthcare and increased risk for poorer health outcomes (131), especially among females (85), underscores the need for excessive weight gain prevention in this

population. To my knowledge, no study has specifically examined obesity in rural African American girls. Given that African American girls and rural African American youth are at increased risk for obesity and obesity-related comorbidities, specifically targeting the prevention of excessive weight gain in rural African American girls is warranted.

OBESITY PREVENTION IN RURAL AFRICAN AMERICAN GIRLS

Improving Clinical Outcomes: Identifying Risk Factors

While the widespread development of obesity prevention programs demonstrates professionals' recognition of the importance of addressing obesity in youth (e.g., 54), few studies have targeted excessive weight gain prevention in rural African American girls. Among studies examining African American youth, in general, prevention or intervention efforts rarely translate to long-term weight changes. In girls, studies have only demonstrated short-term weight reductions (7; 14; 53; 99; 146). Among rural-dwelling youth, long-term weight reductions have been modest to non-significant (29; 51). In a school-based intervention, while investigators found significant reductions in body fat percentages in the intervention compared to the control group, weight changes from pre- to post-treatment were modest (26.17% vs. 25.16%) (51). In another randomized-controlled trial, no statistically significant difference in BMI-z were found between the intervention and control conditions (29). One limitation of current studies is the restricted focus upon physical activity and nutrition, neglecting other important factors involved in excessive weight gain, such as disordered eating behaviors. To address this notable gap in the literature, I posit that targeted prevention programs that focus on other modifiable risk

factors for excess weight gain—such as disordered eating behaviors—may hold promise, particularly in African American youth (5).

Using a Socio-Ecological Framework to Understand Obesity Risk

Bronfenbrenner's Socio-Ecological Model

Utilizing a socio-ecological framework may be one suitable approach for conceptualizing risk for excessive weight gain and disordered eating, particularly within racial/ethnic minority communities (64; 76; 77; 112; 143). Broader historical, cultural, and social contexts are critical elements within African American cultures and should be utilized when addressing behaviors that may promote excessive weight gain in this group (76). If these factors are ignored, researchers may neglect key features promoting or mediating risk, onset, and prevention (76). Ultimately, such neglect may prevent necessary public health and clinical outcomes.

The socio-ecological model extends beyond individual behaviors by incorporating broader influences. The original model, developed by Urie Bronfenbrenner (1977), outlined five systems involved in human development and behavior—the individual, macrosystem, exosystem, and microsystem. These systems highlight important, complex relationships among the individual and the various environments she encounters.

First, macrosystem, which is the broadest system, differs substantially from other systems and highlights institutional patterns influencing other subsequent levels. Components within this system serve as “blueprints” leading to prototypes or regulations regarding the way one should function based upon his culture or subculture (19). For example, U.S. economic and agricultural systems dictate the types of food products that

may be subsidized, which greatly impacts consumer purchasing. Secondly, the exosystem includes formal and informal social structures influencing an individual's environment, such as community norms or standards (19). The mesosystem—an intermediary—highlights the interconnections among major components within an individual's mesosystem (19). For instance, one's familial relationships may impact the school environment and vice versa. Lastly, the microsystem includes relationships with one's immediate environment, including family or peers (19). According to Bronfenbrenner (1977), these systems exist as “nested” entities, underscoring the theory that behavior results from both individual choices and an intricate network of multiple systems.

A Modern Application

Since its development, Bronfenbrenner's socio-ecological model (1977) has been modified extensively to account for the various systems influencing obesity (61; 76; 111; 143). In these models, levels have been renamed to reflect components involved in each system. In their socio-ecological model, Wilfley and colleagues (2010) identify individual-level factors occurring in response to one's genetic predisposition and upbringing, such as motivation to eat and impulsivity. Researchers opine that such individual factors occur in the context of environmental-level factors, including food availability. Together, individual and environmental influences lead to differences in obesity risk (143).

In another model, Huang and colleagues (2009) take an approach similar to Bronfenbrenner (1977) by identifying various levels of determinants comprised of complex relationships. In their model, obesity occurs in response to several factors: international (e.g., globalization of markets), national/regional (e.g., media and culture),

community/locality (e.g., healthcare), work/school/home, and individual (e.g., energy expenditure, energy intake). Levels reflect dynamic relationships among individuals and the embedded features within their immediate and broader environments. In the current thesis, I will use a socio-ecological model based upon the above models (19; 61; 143) to review obesity risk factors in rural African American girls by highlighting four key systems—structural, community, interpersonal, and individual levels—and the accompanying components particularly relevant to the current study.

Improving Clinical Outcomes: Promoting Sustainability

Another important component, and limitation, of any prevention program intended to produce long-term weight changes is sustainability. Clinical research interventions aimed to elicit weight reductions are rarely sustainable in real-world settings (71). To improve sustainability, prevention efforts must be community-based and culturally tailored to specific racial/ethnic minority groups (15; 75; 76). Community-based Participatory Research (CBPR) (1) is one method of gaining such insights to improve sustainability (15; 76). CBPR is a collaborative approach between local residents and researchers to design and disseminate research products (1). Partnerships with community members are used to identify and initiate projects relevant to both community stakeholders and researchers. Through the collaboration, community members become invested in the dissemination and implementation of research findings with the ultimate goal of sustainable change.

A useful tool to engage community members within a CBPR framework is utilizing qualitative methodology (i.e., focus groups) (74). Focus groups are designed to gather information regarding individuals' opinions about specific issues, services, or

products (74). While previous focus group studies exploring community perspectives have examined important issues, such as obesity, physical activity, and nutrition (8; 21; 88; 98), reports rarely investigate perspectives on prevention programs (e.g., interpersonal psychotherapy) or disordered eating behaviors (e.g., loss of control eating). Gaining community perspectives on specific prevention programs and disordered eating behaviors that may reduce such eating behaviors may assist researchers in the development of culturally appropriate programs to prevent excessive weight gain and disordered eating.

CURRENT THESIS

Therefore, the aims of the current thesis are as follows: 1) Review structural, community, and interpersonal, and individual systems within a socio-ecological model that may promote excessive weight gain in rural African American girls, 2) Present qualitative data from a CBPR study aimed to adapt interpersonal psychotherapy to be more culturally appropriate for the prevention of excessive weight gain and disordered eating in rural African American girls, and 3) Discuss qualitative findings from participants in the context of key areas within a socio-ecological model.

REVIEW OF SYSTEMS INVOLVED IN OBESITY RISK IN RURAL AFRICAN AMERICAN GIRLS (AIM 1)

Structural Influences

The first system under review includes structural-level influences potentially impacting obesity risk in rural African American girls. That is, implicit or explicit systems typically beyond an individual's control, such as the agricultural and economic systems.

Agricultural and Economic Policies

In the U.S., agricultural and economic policies impact eating behavior by influencing the food environments in which individuals live. Those in rural areas often have limited access to healthy food options and abundant opportunities to consume calorie-dense foods (112). These environments, known as food deserts, include areas that have limited access to affordable, healthy food options (130). Research suggests that rural children living in food deserts are more likely to be overweight or obese compared to their counterparts (32; 105). Such evidence suggests a clear link between one's environment and risk for obesity.

Issues related to access to healthy food options are also entangled with an individual's economic means to purchase these foods, even if they are available. While some rural areas may not be considered food deserts (133), rural communities may have higher poverty rates, which also hinders purchasing capability (20; 85). Indeed, low-income areas are often replete with inexpensive foods high in fat, sugars, oils, and corn and soybean products (35). These products are typically inexpensive to produce because of U.S. government subsidies (112). Primarily due to such subsidies, the costs of unhealthy foods are low while costs of healthy foods continue to rise (20; 96; 112). This cost discrepancy may hinder an individual's decision to purchase healthful foods (33; 112; 151), particularly those who are economically disadvantaged (20). In addition to economic stress, these political, agricultural, and economic factors may diminish a community's sense of self-efficacy and engender individual helplessness regarding one's ability to manage his or her own health through healthful eating. While these structural factors will not be directly targeted in the current study, the ways in which these powerful

influences may impact clinical outcomes must be accounted for, particularly among rural groups.

Community Influences

The second level under review includes community influences that may impact obesity risk in rural African American girls. This level refers to factors that may be unique to rural communities, and therefore, impact the subculture within which residents live, such as the perception of geographic isolation.

Geographic Isolation

Research suggests that individuals living in rural communities report experiencing isolation, particularly from larger surrounding urban areas (85). Partially due to geographic barriers, lack of public transportation, and limited opportunities, individuals in rural communities report feeling social exclusion and being unable to obtain the same opportunities as urban-dwelling individuals (85; 101). These feelings of isolation may precipitate psychological distress leading to feelings of community dissatisfaction, boredom, loneliness, and depression, especially among women and youth (85). While it has not been specifically examined in rural individuals, psychological distress may also lead to familial relationship strain if individuals out-migrate from rural communities when attempting to obtain better educational or vocational opportunities (89; 95).

Taken together, geographic isolation places rural individuals at risk factor for diminished psychological well being as a result of broader influences outside of his or her immediate control. Due to the many areas geographic isolation affects—employment, familial, and personal—an individual’s overall quality of life can be negatively impacted. Since such factors are uncontrollable and cannot be removed easily, low quality of life

may become chronic, leading to negative coping behaviors, including problematic eating (127). Therefore, efforts to improve psychological well being through clinical interventions among rural youth must recognize risk factors that may be uncontrollable and persistent, and teach youth skills to positively cope with ensuing negative emotions.

Interpersonal Influences

Interpersonal influences potentially impacting obesity in rural African American girls refer to an individual's familial and social environment. These influences are based upon the individual's immediate environment.

Interpersonal Stress

African Americans highly value family connectivity (60), particularly rural African Americans (86). Individuals in rural areas are often a part of close knit families and social networks (85) and rural adolescents tend to be more family-oriented compared to their urban counterparts (38). While families may serve as a protective factor, other stressors, such as geographic isolation, lack of privacy, boredom, and mistrust of “outsiders” may negatively impact social relationships and precipitate interpersonal stress (85). Furthermore, researchers have also described traditions of patriarchal family and community structures that may also lead to interpersonal stress (85; 101). Interpersonal and social stress has been shown to lead to depressive symptoms and low quality of life, especially in girls (121; 141). Subsequently, these individuals may use food to cope with negative emotions (121; 141). Therefore, targeting interpersonal and social stressors impacting rural African American adolescents may represent suitable targets for preventing aberrant eating that may lead to obesity.

Individual Influences

Individual level factors refer to those behaviors that are often controlled by the individual. Such factors include unhealthy eating behaviors and negative affect.

Unhealthy Eating Behaviors

One well-established risk factor for excessive weight gain is over-consumption of unhealthy foods. Dietary patterns among African Americans have been extensively reviewed in the literature (18; 62; 103; 126; 128). In general, research suggests that rural African Americans consume less protein, dietary fiber, and vitamins compared to their Caucasian counterparts (26). Additionally, rural African American children consume fewer servings of fruits, vegetables, and dairy (26). While most data show African Americans typically consume less healthy foods compared to other racial/ethnic groups (3), it is important to note that much variability exists among ethnicities (62). Therefore, examine of particular eating patterns that may influence excessive weight gain in specific communities is critical.

Negative Affect

A paucity of research exists regarding the unique stressors that may impact eating behaviors in rural communities, particularly rural African American girls. Some research suggests few differences between self-reported stress in rural and urban groups (38), while others have identified several unique stressors within this population. In particular, lack of access to care, lack of awareness of health and mental health services, higher healthcare costs, and higher disease burdens have been identified as significant stressors (e.g., (85; 87; 101). Other economic stressors include unpredictable or irregular incomes, being in a culture based upon self-sufficiency, limited occupational opportunities, and

reliance on occupations dependent on local industries (85; 101). Although it is unclear how these stressors may impact eating behaviors, examining stressors that may precipitate modifiable disordered eating behaviors may be important targets for intervention.

Researchers have proposed several theoretical models to understand how aberrant eating may impact excessive weight gain. Theories in adults postulate that unhealthy eating occurs in response to negative emotions (55). Consistent with those theories, research suggests that adults with disordered eating use food to cope with negative emotions, or negative affect (52; 81; 124). Indeed, adults with eating psychopathology have endorsed negative affect before, during, and after disordered eating episodes (11; 49; 50; 57; 67; 81; 109; 124). Similar to adults, research suggests that adolescents who engage in disordered eating endorse eating in response to various negative emotions, including sadness, loneliness, anger, frustration, and anxiety (79; 106; 120). Furthermore, adolescents with aberrant eating have also endorsed feelings of guilt or shame following eating episodes (117). While the majority of these studies have examined negative affect within predominantly Caucasian samples (e.g., 106), support for this model was found in one study with approximately 40% African American youth (97). Such evidence suggests a link between unhealthful eating behaviors and negative affect.

Loss of Control Eating

Another eating behavior that may influence food intake and obesity in rural African American girls by linking negative affect and unhealthy eating behaviors is loss of control (LOC) eating. LOC eating is common in low-income rural communities (41) and refers to the experience of losing control over one's eating, regardless of the amount

of food consumed (114). LOC eating is the critical feature of binge eating disorder, which refers to the experience of a lack of control over eating accompanied by the consumption of an unambiguously large amount of food (4). Notably, LOC eating is a developmental risk factor for excess weight (43; 107; 110; 123) and fat gain (116), partial or full-syndrome binge eating disorder (Tanofsky-Kraff et al., 2011), and depressive symptoms (43; 119). Although full-syndrome binge eating disorder is uncommon in youth, LOC eating is reported to be common, with prevalence up to 45% in overweight, adolescent girls (114). Such prevalence is comparable (6) or greater (113) in African Americans.

The mechanism by which LOC eating may impact obesity onset is unclear. However, youth who endorse LOC eating have described and demonstrated specific eating patterns that may precipitate excessive weight gain. Youth with LOC eating consume more total calories (58; 82), fat (58), carbohydrates, and palatable foods (e.g., sweet snacks) (118; 125) compared to youth without LOC eating. Notably, African American youth with LOC eating may be at increased risk for caloric overconsumption compared to other youth with and without LOC eating (24). With higher food intake, youth with LOC eating may consume more calories than they expend, subsequently increasing weight gain (59). Therefore, rural African American girls endorsing LOC eating are at increased risk for obesity and associated symptoms. Although the etiology and prevalence of LOC eating among rural African American girls has not yet been explored, targeting LOC eating in rural African Americans may serve as one selective approach to reducing excessive weight gain in this population (115).

Summary of Systems Involved in Disordered Eating and Obesity Risk in Rural African American Girls

To summarize, several systems are potentially involved in the risk and onset of disordered eating and obesity in rural African American girls. Similar to previously discussed socio-ecological models (19; 61; 143), levels are nested entities simultaneously exerting influences on individual's well being. The recognition of structural level systems (e.g., agricultural and economic systems), community influences (e.g., geographic isolation), interpersonal, and individual factors (e.g., negative affect, unhealthy eating behaviors) that create an intricate network of risk is important when considering clinical interventions to prevent obesity. Even if all systems are not specifically targeted, it is important for these factors to be acknowledged when administering clinical interventions to target obesity and disordered eating in rural African American girls. Interventions suited for such integration may hold the most promise.

INTERVENTIONS TO TARGET DISORDERED EATING AND OBESITY USING MULTIPLE SYSTEMS

Interpersonal Psychotherapy for the Prevention of Excessive Weight Gain

Interpersonal psychotherapy (IPT) for the prevention of excessive weight gain is a prevention program to reduce excessive weight gain in adolescent girls at-risk for obesity and severe eating pathology (121). It incorporates the major components of traditional IPT (70; 137) and builds upon IPT-Adolescent Skills Training for the prevention of depression (149) and IPT for binge eating disorder (140). IPT for the prevention of excessive weight gain is a brief, time-limited therapy that recognizes the impact of social environments on LOC eating. While not considered a traditional socio-ecological approach, IPT is based upon the theory that interpersonal difficulties resulting from social

and community experiences lead to negative moods that trigger LOC eating as a means to cope with negative emotions (121). Therefore, IPT not only recognizes the roles of individual behavior, but interpersonal and community influences. IPT for the prevention of excess weight gain assists youth in developing strategies for improving interpersonal functioning by identifying links between familial and social issues, negative emotions, and disordered eating behaviors (i.e., LOC eating) (140). The program encourages youth to make changes through psycho-education, communication skill building (70; 137), communication analysis, and role playing (149). IPT has been shown to be an adaptable and acceptable to diverse racial/ethnic (27; 84; 122; 149) and rural groups (10; 16; 17; 134). In overweight adults (139; 144; 148) and suburban African American girls (122), those in IPT demonstrate less-than-expected BMI gain, modest weight lost, or adequate weight maintenance.

In addition to its emphasis on positive family relationships and connectedness (60), there are several other reasons IPT may be well suited to address excessive weight gain in African Americans. Unlike cognitive behavior therapy, a common therapy used to address disordered eating in adults (147), IPT does not address individuals' thin ideal, which is not a common experience among African Americans (65). Instead, IPT targets the negative emotions associated with LOC eating, regardless of the particular situation. Therefore, it is well poised to address specific challenges to LOC eating that may be linked to stressors based upon structural, community, and interpersonal factors. Therefore, a culturally tailored IPT program may be a promising therapy for rural African American adolescents at risk for excessive weight gain and endorse LOC eating.

THE PREVENTING WEIGHT GAIN AND ENHANCING RELATIONSHIPS IN UNDERSERVED POPULATIONS (POWER-UP) STUDY: UTILIZING CBPR TO ADAPT IPT TO BE CULTURALLY APPROPRIATE FOR RURAL AFRICAN AMERICAN GIRLS (AIM 2)

In an effort to prevent disordered eating and obesity in rural African American girls—a vulnerable and understudied group—we aimed to utilize CBPR approaches to adapt IPT to be more culturally appropriate. In doing so, several factors are important to consider, including the community’s perspectives regarding obesity, disordered eating, and the empirically support prevention program to be utilized—IPT for the prevention of excessive weight gain. As previously discussed, the CBPR approach provides the framework for incorporating community perspectives into obesity prevention to improve acceptability, sustainability, and, potentially, clinical outcomes (75). In the current study detailed below, rural participants from a community in eastern Maryland were selected to participate in a study to provide their thoughts and opinions about obesity and LOC eating, the importance of interpersonal relationships, the links between relationships, mood, and eating, and the weight gain prevention program. Three groups were chosen to participate in the study—adolescent girls, their caregivers, and individuals who were considered leaders and stakeholders in the community. While the weight gain prevention program would ultimately target obesity prevention in the adolescents, we recognized the critical role of caregivers in their daughters’ lives and their unique perspectives regarding the various stressors impacting teens’ eating behaviors. Furthermore, given that the program would be tailored to the community, it was important to obtain perspectives from individuals with knowledge regarding broader structural and community level factors influencing eating behaviors of teens in the community. It was hypothesized that participants would recognize relevant eating and weight constructs and subscribe to the IPT model and program, but that culturally specific perceptions would be revealed. Data

will be used to adapt IPT-WG to be culturally appropriate for rural African American girls. The major components of this study have been recently published by the author (23).

CHAPTER 2: Methods

STUDY DESIGN

The study employed a mixed method model to collect qualitative and quantitative data from African American individuals in the community. We used CBPR methods to conduct focus groups with rural African American adolescent girls, parents/guardians, and community leaders. The purpose of the focus groups was to obtain detailed information on participants' perspectives regarding obesity, LOC eating, relationships, and the original IPT program as the first step in adapting IPT for this underserved group. Additionally, disordered eating was assessed and related psychopathology by questionnaire. The major components of this study have been recently published by the author (23).

PARTICIPANTS

A rural community sample of African Americans primarily from Princess Anne and Salisbury communities in Maryland were recruited to participate in focus groups. In Princess Anne, MD, population density is 3,300; median household income is \$32,200; and 33% of individuals are below the poverty line. In Salisbury, MD, population density is 30,300; median household income is \$40,600; and 25% of individuals are below the poverty (37; 80; 129; 132). The study was restricted to African American adolescent females since LOC eating is more prevalent in adolescents and girls (114). The inclusion criteria for LOC eating in the current study was based upon a lifetime prevalence of LOC eating and/or correlates outlined in prior research (117). The threshold was determined based upon data demonstrating that even infrequent reports of LOC eating is predictive of

excess weight (110), body fat gain (116), and the onset of partial or full-syndrome BED (119) in pediatric samples. The study was approved by the Institutional Review Boards at the Uniformed Services University of the Health Sciences and the University of Maryland Eastern Shore.

SAMPLING

The rural community sample of African Americans was recruited to participate in a focus group to discuss “thoughts, attitudes, and experiences related to body weight, eating, and communication.” Adolescent girls and parents/guardians were recruited simultaneously through direct mailings, flyer postings, camp announcements, and local radio advertisements directed towards parents/guardians concerned about their daughter’s excessive weight gain and aberrant eating. Eligible girls (12–17 years old) were African American, and overweight ($\text{BMI} \geq 85^{\text{th}}$ percentile for age and sex; (25). LOC eating was assessed by telephone screen using one question (i.e., “Has there ever been a time when you were eating and you could not control what or how much you were eating?) or the endorsement of features associated with LOC eating (117). Features included: 1) eating following negative emotions and/or a triggering event; 2) eating despite a lack of hunger; 3) eating initiated by or during a snack; 4) eating alone; 5) eating in secret; 6) “dissociating” while eating (e.g., numbing or zoning out while eating); or 7) feelings of guilt or shame after eating (see Table 1). Girls who endorsed a lifetime occurrence of greater than one LOC eating episode and/or greater than two correlates of LOC were invited to participate. Adolescents were invited to participate even if a parent/guardian chose not to participate. Adolescents provided written assent and parents/guardians provided written consent for their daughters.

Parents/guardians were included if they had a daughter who met the above qualifications or if parents/guardians reported concern regarding their daughter's weight gain or eating habits. Parents were invited to participate even if their daughter chose not to participate. If parents chose to participate, they provided written consent for themselves.

Community partners at the University of Maryland Eastern Shore assisted in identifying community leaders who would be interested in participating in the focus groups. Community leaders were eligible if they ever worked in a healthcare related field and were individuals who would be likely to deliver the adapted IPT program in the community. Community leaders provided written consent for participation.

DATA COLLECTION PROCEDURES

Two assessments were used to collect qualitative and quantitative data: focus groups and the Eating Disorder Examination Questionnaire (EDE-Q; (39).

Focus groups

Moderators from Westat (Westat, Rockville, MD) were contracted to facilitate focus groups. Westat is an international data collection agency specializing in qualitative methodology. One moderator and one note-taker were assigned to each group. Based upon best qualitative practice, moderators were matched on race/ethnicity, and experience ranged from 5-20 years (74).

Development of Focus Group Questions

Guides were designed by the study team and refined in consultation with a senior analyst at Westat. According to Krueger and Casey (2000), focus group questions should

be open-ended and facilitate conversation, void of technical terms, clear and easy to ask, short, and include consistent language. Original guides by study team members included approximately thirty questions designed to assess opinions regarding unhealthy eating patterns, obesity, LOC eating, important relationships, and the IPT program. However, original guides included too many questions and were close-ended, technical, and did not promote discussion (74). Therefore, in collaboration with Westat analysts, original questions underwent several iterations over approximately three months prior to conducting focus groups. These iterations resulted from in-person trainings held by Westat analysts and research team members that included role-playing various sections of the questions to determine necessary edits. Such revisions were critical to ensure each question assessed the relevant constructs and were in accordance with appropriate qualitative analysis techniques (74) (for list of questions, see Table 1).

Adolescent Focus Groups

Adolescents were queried regarding their general eating behaviors, including healthy and unhealthy eating patterns. Participants were asked to discuss LOC and use of alternative terms, the frequency and context of LOC eating, and associated emotions. Adolescents also discussed their important relationships, relationship conflicts, and whether they recognized links between their relationships, mood, and LOC eating. They were queried regarding their opinions of the program and provided feedback on the skills and role-plays. Adolescents were asked to discuss incentives to participation.

Parent/Guardian Focus Groups

Parents/guardians were queried regarding adolescents' general eating behaviors, including healthy and unhealthy eating patterns. Participants were asked to discuss LOC

and use of alternative terms, whether they observed LOC eating in their daughters, and associated emotions. Parents also discussed their daughters' important relationships and relationship conflicts, including the parent-daughter relationship. Participants discussed whether they recognized links between relationships, mood, and LOC eating in their daughters. To assess the ways in which body shape ideals may impact perceptions of obesity and eating behaviors, parents were asked to describe their beauty ideals, how ideals have changed, and how body weight impacts their daughters. They were also queried regarding their definition of overweight/obesity. Parents were asked to discuss their opinions about the program, areas for improvement, barriers to participating, and the ideal qualifications of a leader.

Community Leader Focus Groups

Leaders were queried regarding the general eating behaviors (including LOC eating) observed among adolescents in their community. Participants were asked to discuss LOC and use of alternative terms, whether they observed LOC eating in the community, and associated triggers. Leaders were asked to describe the community's beauty ideals, how ideals have changed, and how ideals impact adolescents. They were also queried regarding their definition of overweight/obesity and associated views in the community. Community leaders were asked to discuss their opinions about the program, areas for improvement, the community's potential response, and the ideal qualifications of an IPT leader.

Disordered Eating

The Eating Disorder Examination Questionnaire (EDE-Q) (39), based upon the semi-structured Eating Disorder Examination (40), was used to assess disordered eating

behavior, including LOC eating. The EDE-Q has been widely used in adolescent samples (13; 22; 30). There are limited reliability and validity data on the EDE-Q in African American youth. However, in one sample of African American women, the EDE-Q demonstrated good internal consistency (Cronbach's α s = .79-.91) (66). In a racial/ethnic minority community sample of adolescents and adults, the EDE-Q also demonstrated good internal consistency (Cronbach's α s = .74-.86) and convergent validity ($r \geq .70$) (91).

PROCEDURE

Eligible adolescents, parents/guardians, and community leaders were invited to participate in their respective focus groups held in October and December 2011. All focus groups were lead by a moderator and an assistant moderator (i.e., a note-taker). Each participant received \$50, refreshments, and childcare, if needed. Groups were held at the main campus of the University of Maryland Eastern Shore. Each session lasted approximately 90 minutes.

Adolescents and parents/guardians received written assent and consent, respectively. Adolescents and parents/guardians participated in separate groups conducted concurrently. Girls were divided into age-appropriate groups—12–14 years old and 15–17 years old. Following the focus group, girls' heights were measured in triplicate to the nearest 0.1 cm by the Detecto height scale (Cardinal Scale Manufacturing, Co., Webb City, MO). Weight (kg) and body fat (%) were measured to the nearest tenth by the Tanita BF 350 Body Composition Analyzer (Tanita Corporation of America, Inc., Arlington Heights, IL). BMI and BMI-z scores were subsequently calculated (25). Adolescent girls also completed the EDE-Q. Community leaders were

invited to participate in focus groups held in December 2011 lead by a moderator and note-taker. A research team member provided written consent in a group format.

ANALYSIS

Westat analyzed all data based upon methods of postpositivism, a common approach within the health sciences (28). Postpositivism utilizes the same systematic procedure of constant comparisons found in grounded theory (46). In contrast to grounded theory, the key feature of postpositivism is the use of *a priori* scientific theories (i.e., the interpersonal psychotherapy model) to guide thematic analyses (28).

Each focus group was audio recorded and transcribed verbatim according to accepted procedure for conducting focus groups (74). After each session, moderators and note-takers prepared transcripts by summarizing initially salient themes from each group. A lead analyst conducted a debriefing with the moderators and note-takers to compare, contrast, and discuss themes. An analyst used the initial themes identified by moderators and note-takers as a preliminary guide for textual examination of the transcript data. Senior analysts then identified, refined, and verified the recurrent themes and patterns within (e.g., parent/guardian) and across (e.g., parent/guardian versus teenager) groups for each area of interest: 1) general adolescent eating patterns; 2) LOC and binge eating; 3) relationships and the perceived links to LOC eating; and 4) reactions to the IPT program. To improve inter-rater reliability, two experienced Westat qualitative analysts independently read all transcripts several times, identifying relevant phrases, concepts, and themes that regularly or systematically emerged within and across the groups. Analysts independently coded data and then met to discuss and reconcile respective coding schemes (12; 47; 83).

Follow-up Expert Session

Four African American professionals with expertise in African American research and public health issues assisted researchers in understanding parent and adolescent focus group themes and assessing reliability (94). Individuals were recruited from the USU Center for Health Disparities Community Research Outreach Workers Network (CROWN), a group of 20 experts in African American culture, mental health, and/or public health. Prior to participating in a 90-minute teleconference, study team members provided Experts with transcript summaries and themes from each focus group and discussion questions to review (74). In preparation for the teleconference, Experts reviewed the materials and answered six to eight questions designed to facilitate discussion and validate findings (Table 2). The teleconference included Experts and study team members. The teleconference was audio-recorded and a research team member summarized the discussion. Using a note-based analysis (74), a study team member identified the main themes that emerged from the responses. Results were used to inform the final summary of program recommendations.

CHAPTER 3: Results

DEMOGRAPHICS

Data were collected from 21 adolescents ($M=14.24$ y, $SD=1.55$ y), 19 mothers, 1 grandmother, 1 father, and 8 community leaders ($N=50$). The study included 4 groups of adolescents, 2 groups of parent/guardians, and 1 group of community leaders. All adolescents were overweight or obese with a mean (SD) BMI z-score of 2.26 (0.47) and a mean (SD) BMI percentile of 97.20 (2.41). Body fat ranged from 33.40-56.10% ($M=46.00$ %, $SD=6.91$ %). Based on the EDE-Q, LOC eating episodes (days in the past month) ranged from 0 to 6 with a mean (SD) of 0.81 (1.47; Table 3). Community leaders worked in various health-related professions such as child/family development, health education, nursing, phlebotomy, rehabilitation, and medicine. The highest education levels obtained by community leaders were associate's ($n=1$), master's ($n=5$), and doctoral ($n=2$).

With regard to Experts, professionals held doctorate degrees in clinical and/or child psychology ($n=3$) or a master's degree in social work ($n=1$). Their experience with African American research and/or public health ranged from 7-20 years.

FOCUS GROUPS

Focus group themes were categorized into five areas (when applicable): eating patterns, LOC eating, body shape ideals/body weight, relationships, and general reactions to IPT. In general, Westat reported that participants 1) appeared enthusiastic about the idea of prevention program; 2) understood the links between mood and eating, even if they did not endorse it themselves; and 3) believed that they and/or others who were

interested in an excessive weight gain prevention program would attend the program if cultural adaptations were made. For comparison of themes across group, see Table 4.

Adolescent themes

General eating patterns

Adolescents reported consuming unhealthy foods and sugary beverages. They reported skipping meals before and during school, and then overeating after school. They also reported skipping evening meals. Girls reported overeating during weekend activities (e.g., going to the mall) and described mindlessly eating while using the computer or watching television.

LOC eating and negative affect

Most adolescents were aware of the terms “binge” and “LOC eating,” but described the behavior as “being greedy,” “pigging out,” or “throwin’ down.” In the first set of focus groups, all girls endorsed LOC. In the second set, some endorsed LOC eating, while others did not. They associated LOC eating with feelings of anger, sadness, being upset with family members, boredom, idleness as well as positive emotions, like happiness. Younger adolescents reported experiencing feelings such as “regret,” “tired,” and “guilty” after overeating. Older adolescents also mentioned *dissociating* during overeating episodes, explaining that while eating, “it’s going right over your head, but after you’re done, you feel it.” Younger adolescents had more difficulty recognizing links between emotions and LOC eating behaviors, although both groups recognized the connection in others.

Relationships

Adolescents, especially older teens, recognized the links among LOC eating, relationships, and mood. Some girls reported difficulties in their relationships with schoolmates, younger siblings, and mothers, although most still regarded themselves as close to their mothers and saw these difficulties as a normal part of growing and establishing their own identities. They desired more quality time and improvements in their communication with parents and other family members.

Reactions to IPT program

Older adolescents understood the theoretical basis of the program and supported the concept that targeting relationships to improve emotions may impact eating behaviors for those prone to emotional and LOC eating, stating that “teens have mood swings everyday” and those moods may affect communication and consumption. Despite general enthusiasm for an IPT-based prevention program, there was concern that some program components and skills would not be applicable in the current form. For example, some girls disagreed with the skill encouraging the use of “I feel” statements, stating, “parents just don’t care how you feel. We would end up on punishment if we say something they don’t like.” Adolescents desired a parent component for the program and expressed an interest in role-playing communication if a parent were involved, explaining that parents would see “how hard they really are on us.” Adolescents also mentioned it would be helpful to role play how to “talk to friends.” Girls reported that a limited number of participants in the groups (~5 members) and issuing some form of compensation (e.g., gift certificates) would be important factors in considering participation. Youth

recommended that a behavioral component regarding healthy food choices and/or physical activity be incorporated.

Parent themes

Adolescent eating patterns

Parents recognized that LOC eating is prevalent among adolescents in their community and described LOC as being “greedy.” While all parents did not initially recognize a connection between eating behaviors, relationship issues, and emotions, parent reported links between LOC eating and feelings of grief after the death of a parent, relative, or close friend. Parents also attributed their daughter’s weight gain to “mindless” eating of unhealthy food, secretive eating, boredom, and daughters simply enjoying eating.

Body shape ideals/Body weight

Parents indicated their daughter’s physical appearance greatly impacted their lives, explaining that they are often excluded from social activities because of their weight. One parent explained that her daughter stays home to avoid participating in events where girls are wearing “tiny little clothes, short skirts and all.” Parents understood, but rejected, the pressure of mainstream body standards that emphasize thinness. They preferred terms such as “voluptuous” and “curvaceous” rather than “big,” “heavy,” or “fat.” They differentiated between overweight and obese, with the former being related to one’s BMI and the latter signifying a heavy person with related medical problems. While concerned about the health consequences, many were reluctant to classify their daughters as overweight or obese because they felt doing so would erode

their daughters' positive body- and self-images. Parents desired support in discussing eating and weight issues with daughters.

Relationships

Overall, parents felt positively about their relationships with their daughters. Conflicts involved “typical” adolescent issues (e.g. chores, homework). They desired to spend more quality time with them and improve communication—as one parent stated, “I am too critical sometimes.” They also desired better ways to discuss issues related to loss of a loved one.

Reactions to the IPT program

In general, parents were enthusiastic about a prevention program to target both excess weight gain and exacerbated disordered eating. Parents initially reacted positively to skills and role-playing; however, they believed that some program components should include a behavioral module related to nutrition and physical activity. They also desired a parent support group specifically devoted to discussing their daughters' progress and any issues that might arise as a result of utilizing new communication skills at home.

According to the parents, important qualifications of IPT leaders were being female, African American, relatively young (20s to mid 30s), patient, understanding, positive, non-judgmental, someone who had lost weight successfully herself, and someone from outside of the immediate community because “you got to be able to trust that person not taking it back on the street about what’s going on.”

Community leader themes

Community eating patterns

Leaders explained that healthy eating is not part of the community culture. Consumption of large amounts of unhealthy, ethnic foods is viewed as part of the community's cultural identity. Therefore, a reduction or elimination of these food choices may be viewed as a "denying where I came from" or being "uppity." Leaders highlighted components of the rural culture that may impact eating behaviors, such as poverty, physical and cultural isolation, and lacking a sense of self-efficacy. They reported hearing that adolescents would skip meals, but "gorge" upon returning home from school. Community leaders believed the prevalence of LOC eating to be high among adolescents and the entire community. Leaders described LOC as "greedy" and eating without being hungry. Leaders attributed the eating behavior to "filling an emotional hole" and positive emotions, potentially from celebratory events. Several leaders also noted that LOC eating might be a "learned behavior" as teens witness their parents reacting to emotions by losing control over their eating.

Community body shape ideals/Body weight

Leaders believed that the community standards of body shape differed from mainstream culture such that individuals prefer larger body sizes, which is often viewed as an indication of good health. One community leader noted that a "juicy" baby is regarded as healthy and grows into an adolescent "that has these overdeveloped breasts and hips [and] we say, ah, she's fine. She's grown into a real woman...[when] she's really overweight." "Overweight" was perceived to relate to BMI whereas "obesity" signified an overweight person with medical problems and physical limitations. Leaders

reported that individuals in the community perceived body weight and size as largely genetic; therefore, overweight and obesity are often viewed as inevitable outcomes. One leader noted, “if the mother is that type that’s got the body shape that’s kind of thick, then the kids think that’s how they [will] grow up to be.” As a result, community leaders indicated that the recognition that overweight and obesity are community health problems is low.

Reactions to the IPT model and program

Community leaders understood the connection between negative emotions and exacerbated disordered eating in adolescents. They also believed that positive emotions, poverty, and lack of alternative physical activities impact eating patterns and excess weight gain. Leaders were skeptical about IPT in its current form, explaining that it may be too rudimentary to engage teens. One community leader stated, “just bringing a group of teenagers from this community. I think they would get bored very quickly.” Therefore, they believed the program should include a behavioral component with information about nutrition and physical activity. Leaders emphasized the importance of parents being “cued in” to program components, so utilization of skills would not be viewed as violating cultural standards regarding the proper role of parents and children. They believed that IPT leaders should be individuals who are culturally sensitive, able to interact with teenagers, formally educated with at least a Master’s degree, and who experienced eating/weight control issues. They indicated that incentives or prizes would be important.

EXPERTS SESSION RESPONSES

Emotions and LOC eating

Experts confirmed that the connection between negative emotions and LOC eating resonated with adolescents and parents. According to experts, while adolescents associated particular emotions (e.g., anger, boredom) with overeating and LOC, it was unclear whether adolescents recognized these emotions as *precursors* to LOC eating. Hence, they believed that when adapting IPT, explicating the nature and rationale of the model might require additional time. The various terms used to describe LOC eating led experts to believe that adolescents likely viewed disordered eating as a choice or lack of will power rather than a behavior that may warrant intervention. To help girls understand LOC eating and feel comfortable expressing their inability to control their eating, experts emphasized the importance of building rapport and trust among leaders and group members.

Participation and recruitment

Experts raised potential barriers that could hinder participation in a prevention program, including shyness, stigmatization, reluctance to share information, and failure to perceive eating or weight issues as problematic. They believed that linking eating and weight with known medical issues, such as high blood pressure, would be essential. They also suggested including psycho-education regarding the connection between emotions and LOC eating during recruitment. Although participants used alternative terms to describe LOC (e.g., “greedy”), experts discouraged the use of these terms in recruitment materials since they could be stigmatizing. They felt that using alternative terms for LOC eating *within* IPT sessions might elucidate the LOC construct.

IPT program

Experts concurred that suitable leaders should be individuals outside of the community as to avoid discomfort with sharing private information. They believed it would be critical for skills to be appropriately adjusted and communicated effectively by leaders. Experts explained that leaders should clearly describe skills and how to implement them within the culture. For example, the IPT skill to use “I feel” statements to express thoughts or feelings is a universally effective interpersonal communication tool. Yet, the skill could be perceived as too assertive and, therefore, disrespectful towards parents within this population. Thus, specific terminology would require adjustment to reflect typical communication within the African American family. Experts believed that leaders should highlight eating precipitated by grief for IPT participants when relevant. Likewise, discussions about body image should be related to girls by acknowledging the ways in which African American beauty ideals differ from the thin ideal of mainstream culture.

Experts believed that a parent component would be necessary to promote learning and use of the IPT-skills and to facilitate adolescents’ progress through the program. They noted that a healthy eating (e.g., planning meals) and exercise (e.g., ways to be active) behavioral component would be beneficial as well. To incentivize the participants, experts suggested including excursions, such as a visit to a restaurant, which would embrace the cultural values of collectivism and celebration.

CHAPTER 4: Summary & Conclusions

The purpose of this thesis was to present and place in a broader context qualitative data regarding the perspectives of overweight rural African American girls with LOC eating behaviors, their caregivers, and community leaders on obesity, LOC eating, relationships, and IPT aimed at preventing excessive weight gain. Findings suggest the program generally resonated with adolescents and parents; however, community leaders were less enthusiastic about IPT in its current form. In addition to rural participants, Experts provided further insights and offered explanations regarding participants' understanding of emotional and LOC eating constructs, barriers to participation and recruitment, and appropriate IPT program adjustments. This thesis also aimed to place results in a socio-ecological framework to highlight the multi-level systems associated with excessive weight gain and development of disordered eating behaviors in this group. All data will be used to adapt IPT to be more culturally appropriate for this group.

DISCUSSION OF THEMES WITHIN SOCIO-ECOLOGICAL FRAMEWORK (AIM 3)

Participants identified various factors within several levels of the socio-ecological framework. For a depiction, see Figure 1.

Structural Influences

Based upon participant responses, geographic isolation was identified as a risk factor for disordered eating and obesity in this sample. As previously discussed, geographic isolation can be particularly difficult for rural residents, including youth (85). Although participants did not elaborate on the particular factors mediating feelings of isolation, they noted both physical (e.g., geographic location) and social isolation, which

may refer to exclusion from social groups outside of the rural communities. Based upon prior literature, geographic isolation can lead to feelings of boredom and depression (85). Since these geographic barriers are not easily mitigated, assisting youth in dealing with such isolation may be important within the IPT program. Within the IPT prevention program, youth are given skills to promote positive communication skills. In this case, teens may learn ways to communicate their frustrations with their caregivers in order to generate ways to ameliorate the distress. As a result, caregivers and teens can potentially work collaboratively to increase family trips outside of the rural community. In this way, youth may learn better communication skills to garner support from caregivers, strengthen parent-child relationship, and travel outside their rural communities. Such actions may improve mood and decrease the likelihood of using food to cope with negative emotions.

Community

Participants highlighted several factors related to community level influences that may impact obesity risk in the sample. Notably, participants exhibited a misunderstanding regarding the health consequences of obesity. While obesity rates in African American youth are high (90), parents and community leaders only regarded high body weights as problematic when accompanied by medical consequences. This finding is consistent with prior qualitative reports (21) and trials in adults (104) suggesting that African Americans are typically motivated to lose weight when health co-morbidities are present (63). These results indicate potential difficulty in recruiting participants for a study to prevent excessive weight gain when other weight-related health consequences have not yet developed.

Although diagnosis of an obesity-related illness is a powerful motivator, intervening *before* disease onset is the aim of any preventative effort. Since recruitment procedures will primarily involve parents, exploring ways to underscore the importance of addressing their daughters' aberrant eating and weight issues before more severe eating pathology (119) or excessive weight gain occurs (42; 43; 107; 116) will be critical.

Psycho-education—if delivered appropriately—may hasten consideration of prevention (36). While psycho-education alone cannot address weight and eating concerns, particularly disordered eating (102), it may be one way to encourage participants to make initial steps towards preventative care, especially if coordinated with healthcare providers (36) or community stakeholders (68; 136). Healthcare providers who adequately discuss obesity and related comorbidities with their patients can increase patient recognition of weight-related issues (36). Furthermore, building relationships with community stakeholders—often viewed as community “gatekeepers”—may improve familiarity with the research goals and foster trust with the research team (2). These important factors provide a platform for discussing the importance of obesity and disease prevention. Therefore, researchers must collaborate with primary care providers and community stakeholders, as early as the recruitment phase, to provide psycho-education regarding the relationships among the IPT theoretical constructs, obesity risk, and medical comorbidities. Indeed, during the described study, working with community stakeholders significantly improved recruitment of rural African American girls. Strengthening such collaboration may improve interest, recruitment, and participation in the obesity prevention program.

Interpersonal

Parents noted a relationship between their daughter's weight status and functional impairment in social domains. This finding is consistent with data demonstrating that obese African Americans reported a markedly reduced psychosocial quality of life as compared to Caucasian groups (92). IPT, with its focus on improving mood and relationships, may be especially salient for addressing this issue in rural African Americans. For instance, adolescents may learn ways to express concerns to parents in order to garner emotional support. In turn, parents become more aware of their teens' issues, and therefore, more likely to where necessary.

In addition, all participants advocated for a parent component for two main reasons: 1) for parents to remain abreast of skills being taught in sessions and 2) to teach parents skills to facilitate healthy lifestyles changes in the daughters. The former reason is based upon the desire to maintain respect and authority for the caregivers' roles in the adolescents' lives, which is important in African American cultures (34). This particular point will be discussed further below (see "Adjusting IPT communication skills"). The latter is another adaptation that may bolster IPT since parental involvement in family-based programs has been predictive of long-term weight maintenance (56; 135; 143).

Since parents typically play such a critical role in youth's daily lives (150), improving social support surrounding eating- and weight-related goals may lead to better weight outcomes (48). Nevertheless, it is unclear whether family involvement produces the same level of effectiveness when including African American girls (9). In a review of 27 family-based interventions targeting obesity in African American girls, authors could not determine whether family involvement uniquely predicted improvements in physical activity and nutrition (9). However, these studies primarily target behavioral changes,

which are rarely sustained long-term (14). When targeting communication and relationship issues—as in the proposed study—including the family may be critical to uptake and sustainability (31).

Based upon other family-based techniques (31), IPT could be adapted to include weight-related goals focused on eliciting social support for healthy behavior change and to involve parent facilitation and assistance in the practice of interpersonal skills (142). Similar to other forms of family involvement (9), we will adapt the current manual to include parallel sessions for parents or caregivers. The sessions will complement IPT sessions targeting adolescents and provide parents an opportunity to remain abreast of skills being taught in the IPT sessions.

Individual

Addressing LOC and disordered eating behaviors

Participants highlighted several individual-level factors impacting obesity, including body shape preferences and eating patterns. Parents and community leaders rejected typical thin ideals and preferred larger body sizes, specifically as it related to their daughters. This finding is consistent with prior literature (73). The need to uphold cultural values and maintain adolescents' self-esteem will be retained in the adapted IPT program.

All adolescents endorsed some form of LOC eating behavior. Moreover, a pervasive theme throughout the focus groups and expert session was the participants' description of LOC eating. Participants often described LOC eating by using terms implying control over the behavior (e.g., “being greedy” or “pigging out”). Therefore, it appears important that the IPT program emphasizes that LOC eating is not necessarily a

“choice” behavior, but rather the result of a complex interaction of biological, psychological, and environmental factors (143). Furthermore, more research is needed to explore whether “pigging out” or “being greedy” are distinct or similar eating pathologies compared to LOC eating (114).

Older adolescents reported experiencing negative emotions prior to (e.g., boredom, anger) and following (e.g., guilty, tired) eating episodes, which is consistent with previous studies that included primarily Caucasian samples (117). Some adolescents described numbing or dissociating while eating (e.g., “going over your head”), which is an associated feature of binge eating disorder (4) and has been reported in at least one prior study of children and adolescents with LOC eating (117).

An adapted version of IPT for rural African American girls will require incorporating culturally relevant terminology and descriptions for this particular group. In particular, the language in role plays will be adjusted (e.g., more culturally appropriate names and scenarios) and leaders will be instructed to incorporate alternate terms for LOC eating, including “pigging out” and “being greedy.” These adjustments in content—specifically terminology—are typical components of cultural adaptations (75). The research is mixed regarding whether these adjustments alone produce more effective outcomes (76); therefore, systematically reviewing how such adjustments may impact obesity prevention outcomes will be critical.

Adjusting IPT communication skills

Some skills within the IPT manual will require adjustment in order to be culturally appropriate and respect authority. The values upheld by people in African Americans cultures emphasize respect for parental authority (34). Among African

American adolescents, the lack of such respect can lead to conflict (34). Indeed, in the current study, parents and adolescents agreed that youth are rarely allowed to tell adults how they feel in fear of repercussions. . While we will respect family structures, we also desire to teach parents and children additional skills that may help improve openness and their communication, ultimately leading to improvements weight outcomes (45; 108). For instance, the skill promoting use of “I feel” statements might require a modification so parental authority is respected. For instance, the manual will put forth several options for explaining the “I feel” statements—rather than initiating a conversation with an “I feel” statement, teens will be encouraged to request permission from parents to express their emotions. In this way, we hope the authoritative role of the parent will be respected and maintained.

Inclusion of behavioral component

Girls, parents, and community leaders recommended a behavioral component to teach skills for healthy eating and exercising. Prior research on behavioral modification for weight loss in African Americans is inconsistent (7), and data in adults suggest that behavioral treatments may be less effective at reducing binge episodes than specialized treatment for binge eating disorder (148). Yet, building social support networks for healthy eating and physical activity across home, school, and community contexts may increase engagement in such beneficial behaviors (100) and sustain long-term weight loss (142). Therefore, we plan to adapt the current manual to include a health education program used in conjunction with the IPT program.

SUMMARY OF CULTURAL ADAPTATIONS TO IPT MANUAL—“IPT-POWERUP”

Study findings suggest that all focus group participants have unique perspectives regarding factors impacting obesity and disordered eating in rural African American girls. Several participant recommendations are already present in the current form of the IPT manual, including a respect for one's cultural understanding of beauty and weight ideals. Such factors will be maintained in the adapted manual. However, several novel factors will be incorporated into the adapted IPT-POWERUP manual (for list summary, Table 5). First, participants appeared to have a misunderstanding regarding the importance of obesity prevention when other health consequences were not present. Therefore, more psycho-education appears to be necessary before participants choose to participate in study. An information session will be instituted to discuss the links between disordered eating behaviors, obesity, and well-known adverse health outcomes. While such information is typically provided during the consenting process, the updated manual will instruct leaders to conduct an initial informational session with relevant facts regarding obesity, presented in a memorable and engaging format. In this way, even if participants choose not to participate in the study, they will receive relevant and accurate information regarding the links between aberrant eating behaviors and obesity.

Secondly, various terms for LOC eating were used throughout the focus groups. Rather than solely referring to "loss of control" eating, leaders will be instructed to utilize alternative terms, such as "being greedy" or "pigging out." Furthermore, participants' perspectives also highlighted the importance of personalizing terms for eating pathology. Therefore, leaders will be encouraged to elicit participant feedback regarding use of other terms describing LOC or binge eating. While it is important to recognize various terms for LOC eating, leaders will be instructed to discuss the particular mechanism of LOC

eating, so participants understand the difference between non-disordered overeating and LOC eating. Additionally, role-plays will be updated to incorporate different terminology.

Another important adaptation is the inclusion of parental and behavioral components. In the original IPT manual, teens typically use skills to role-play difficult conversations with other adolescents and the facilitators. Adolescents are then instructed to attempt the conversation with a parent outside of group and report the outcome during the following session. Based upon anecdotal evidence from prior IPT studies with adolescents,, incorporating new communication strategies without a parent's knowledge can be difficult (M. Tanofsky-Kraff, unpublished observations). Parents are rarely aware of the adolescents' specific guidance on utilizing new communication skills (M. Tanofsky-Kraff, unpublished observations). Therefore, adolescents may be unknowingly deterred due to parent's confusion or impatience. Therefore, in IPT-POWERUP, parents will be present at the initiation of each session, so leaders may share session agenda and reconvene towards the end of sessions to role-play conversations *in vivo*. In this way, leaders can provide immediate feedback, allowing both the parent and adolescent an opportunity to learn and practice new ways to communicate in the safety of the therapeutic environment.

Additionally, participants advocated the inclusion of behavioral techniques, which will be combined with parental involvement. Parents will partake in parallel health education sessions designed to teach skills regarding nutrition and physical activity, and also provide information regarding the use of social support. Once parents reconvene with adolescents, they will share nutrition and physical activity information utilizing

skills obtained during the health education/social support session. Providing parents these skills not only maintains the parent's authoritative role in their families, but provides an avenue for parents and adolescents to collaboratively improve communication, nutrition, and physical activity.

Other manual adaptations previously discussed include the delivery of the skills, particularly "I feel" statements. Skills will be adjusted maintain parental authority. Secondly, participants and Experts expressed a need to incorporate activities in order to practice communication and healthy eating and model connectivity in the African American culture (60). Therefore, a healthy potluck will occur at the final session. Each parent-adolescent dyad will be expected to collaborate to choose a healthy item to prepare and bring to group session. At the session, dyads will share their experiences coordinating with one another to choose and prepare foods, including ways they utilized more positive communication strategies. We expect these adaptations will greatly improve the relevance of IPT skills for the prevention of obesity in rural African American girls.

STRENGTHS AND LIMITATIONS

Study limitations include the small number of focus groups and reduced generalizability since rural African American adolescents may not represent African Americans in other environments. Further, since adolescents, on average, endorsed fewer than one LOC eating episode in the past month, data may not be representative of adolescents with more severe eating pathology. However, our goal was to examine adolescents with sub-threshold eating problems. Although the EDE-Q was used to assess disordered eating pathology, it has not yet been validated in African American youth.

Due to the small sample size, reliability for the current study was not analyzed. To limit study burden for adults—who were not the central focus of group discussions or IPT adaptations—we did not collect data on body weight or socioeconomic status. Therefore, characterization of the sample may be limited. Future research should also include a measure of health-related or physical quality of life, as it may be particularly salient in this population.

There are several notable strengths of the current thesis and detailed study. A broader perspective was taken in reviewing relevant risk factors for obesity potentially present in rural African Americans girls. Such a perspective is rarely taken, especially when utilizing a clinical intervention targeting individual behaviors. Furthermore, this particular perspective combined multiple systems that extend beyond the individual, but simultaneously impact obesity risk. We also utilized a CBPR approach to conduct focus groups for tailoring IPT to a specific community. CBPR was critical in the initiation, recruitment, collection, and implementation of this research project. Indeed, community partners and participants were enthusiastic about the current project and future research. Additionally, to improve reliability, we worked with expert focus group moderators and qualitative analysts.

CONCLUSION & FUTURE DIRECTIONS

In conclusion, IPT appears to resonate with a rural African American community, but culturally appropriate adaptations are required. Next research steps include modifying the IPT manual based upon study data and conducting a pilot study to test the feasibility of the program in a rural African American community. This study represents the first step towards reducing obesity-related health disparities in rural African American girls,

albeit at the individual level. While cultural adaptations to impact individual-level eating behaviors are critical, exploring ways to incorporate broader community or structural level changes is paramount. We must continue to work towards developing more sustainable efforts that will likely require incorporating broader interpersonal, community, and structural level environments where people live. In this way, we hope to reduce the disease burden of obesity disproportionately impacting rural African American girls in our population.

Table 1. Focus group questions for adolescents, parents, and community leaders.

1. Adolescent focus group guide
Unhealthy eating:
What foods do you like to eat?
Which of these foods do you think are healthy, and which are not healthy?
Overeating/LOC eating:
Can you think of times when you feel like you eat more than you really wanted to or you are not able to stop yourself from eating?
Is there a special name or term you use to describe it when this occurs?
Is there a difference between this type of eating and just eating a lot because you're hungry?
Can you think of what is usually going on in your life when this type of eating happens?
How do you feel when this happens, before and after?
Do you talk to other people when this type of eating happens?
Do you think this type of eating is a problem for you or for others?
Do you have any ideas for how the situation could be improved?
Relationships:
Who are the people you aren't getting along with/communicating with so well?
What makes these relationships difficult?
Do you think there's a connection between overeating/LOC eating and times when you are not getting along with or not communicating well with other people?

IPT-WG program: Does the idea behind the program make sense to you? Do the skills make sense? Are there any you think we shouldn't include? Are there any skills you think are missing?) Does this idea of practicing the skills in the group through role play appeal to you? What kinds of things would make it more fun/enjoyable? Do you think you would want to participate in these groups? If you were to get some type of reward would that make you more likely to take part? If so, what type?
2. Parent focus group guide
Unhealthy eating: How would you describe your daughter's eating habits overall? How healthy are her eating habits?
Overeating/LOC eating: Are there times when your daughter seems to lose control over her eating or she eats a great deal of food in one sitting and her eating appears to be uncontrolled? Are there words that you would use to describe this type of eating in your family? In your community? Have you ever heard the terms "binge-eating" or "loss of control eating? What do these terms mean to you? About how often would you say your daughter overeats/loses control over her eating? Do you have any idea why it happens when it does for her? Is there a trigger?

What are your teen's emotions like when this happens?

Does your daughter talk to you about how she feels when this happens? If not, is there someone else who you think she talks to about it?

Do you think your teenager might engage in this kind of eating when no one else is watching?

Do you think this type of eating is a problem for you or for others?

Relationships:

How would you describe your relationship with your daughter?

If you could improve one thing about your relationship with your teen, what would it be?

Overall, how would you say she gets along with other family members?

Do you think there's a connection between your teen's eating patterns and what's happening in her relationships to other people?

Perceptions on body shape and obesity

In your family and your community, how would you say a girl's weight/body shape affect how others see her?

Would you say body preferences have changed since you were your daughter's age?

How does a girl's weight/body shape affect other parts of her life?

Have you heard the terms "overweight" and "obese"? If so, what do they mean to you?

Are there other words you, or your friends and family use to describe carrying extra weight?

How does someone get to be overweight or obese?

Would you say your daughter is now overweight or obese?

Are you concerned about your teenager's current weight and about her gaining too much

weight as she grows?
IPT-WG program:
Does the basic idea behind this program make sense to you? Do you think teenage girls and their families in this community would be interested in participating in such a program? What activities do you think would make the program appealing to teens and their family members? What type of person do you think would be best qualified to lead the group in this community? Would you encourage your teenager to attend? How does the program and session length of the program sound to you? What would be the best time of day and day of the week for your daughter to come for a group? How likely is it that your child would be able to attend all or most of these meetings? What are some things we could do to make it more likely your teen would attend all or most of these meetings?
3. Community leader focus group guide
Unhealthy eating:
How would you describe the overall eating habits of teenage girls in this community? How healthy do you think their eating habits are?
Overeating/LOC eating:
Have you heard the terms “binge-eating” or “loss of control” eating? If so, what do these terms mean to you?

Have you heard about or witnessed situations in which teenage girls you have worked with seem to lose control over their eating or eat a great deal of food in one sitting and their eating appears to be uncontrolled?

Do you think this type of eating is a problem?

How would you say this type of eating behavior is viewed in the community?

Perceptions on body shape and obesity

How would you say a girl's weight/body shape affect how others see her? How does weight/body shape influence ideas about who is seen as "pretty" or "beautiful"?

How does a girl's weight/body shape affect other parts of her life?

What does it mean to be overweight? What does it mean to be obese? Are there other words that people in this community use to describe carrying extra weight?

What factors affect how someone gets to be overweight or obese?

To what extent would you say being overweight or obese is perceived/recognized as a problem by community members?

IPT-WG program:

Does the basic idea behind the program make sense to you?

Does the idea of teaching teenage girls how to communicate better as a way to improve their relationships make sense to you? Would this approach work?

Does the idea make sense to you that if the girls improve their relationships they will have more control over their eating habits?

Do you think these skills would make sense to teenage girls in this community?

Do you think these skills would help teenage girls in this community to improve how they get along in your relationships?

Are there any skills you think we shouldn't include? Are there any skills you think are missing?

Do you think teenage girls and their families in this community would be interested in participating in such a program?

How does the program and session length of the program sound to you?

How likely is it that teens in this community would attend all or most of these meetings?

What might you see as barriers to their attendance?

What other activities or program format do you think would make the program more appealing to teens and their families?

What type of person do you think would be best qualified to lead these groups with teenage girls in this community?

Would you be interested in serving as a group leader if trained? What would make it more attractive to you to serve as a leader?

Table 2. Questions for follow-up experts session.

1. Questions regarding adolescents
Older adolescents:
Was there any particular response that stuck out to you? Based on the responses, is there anything specific you think would deter a girl from participating in the Interpersonal psychotherapy (IPT) program? Many of the teens described loss of control using terms like “pigging out” or “throwin’ down.” Have you heard of these terms in relation to binge eating/loss of control in this population? Do you think it is important to incorporate this terminology in recruiting for the IPT program and describing loss of control eating within the IPT program? Dissociating while eating or eating “going over your head” is a common occurrence with individuals who experience binge eating or loss of control eating. Has this ever been described to you? It is not uncommon for individuals who begin the IPT program to be unaware of the link between relationships, mood, and eating. Psycho-education in regards to the links is one component of the program. In this population, do you think individuals would be willing to participate even if they do not initially recognize the connection? Do you think this should inform how we recruit for the IPT program? Some did not believe binge eating or loss of control eating was a problem. How important would it be to evaluate whether a person views their eating as an issue

before being a part of the IPT program? Additionally, those individuals viewed this type of eating as a problem cited future medical issues, like high blood pressure, as the reason. Would an emphasis on how the IPT program may impact eating and future medical issues be a good way to promote the IPT program?

While parents mentioned that they had no issues in their relationships with their daughters, daughters did cite issues with their mothers. What do you think of this discrepancy? Do you think that uncovering deficits in the way parents communicate, would negatively impact the mother-daughter relationship?

The older teens thought that Skills 1, 3, and 5 were the best skills, but did not agree with 2 and 4. Was that your interpretation? Do you think the opinions are strong enough to remove certain skills altogether?

Younger teens:

Was there any particular response that stuck out to you?

Based on the responses, is there anything specific you think would deter a girl from allowing her daughter to participate in the Interpersonal psychotherapy (IPT) program?

Focus groups moderators commented that younger teens seemed to be too immature and inarticulate to understand and respond to many of the questions. Do you think the IPT program and discussions about relationships, mood, and eating would be more appropriate for older teens (~15-17 years) as compared to younger teens?

The younger teens expressed their belief that they needed to curb their negative eating behaviors on their own. Do you think this is a common theme in the

community? How should we incorporate this understanding into the adaptation of the IPT program?

The older teens thought that Skills 4 and 5 were most important, but did not agree with 1. Was that your interpretation? Do you think the opinions are strong enough to remove certain skills altogether? How should this information be interpreted in light of the older teens' opinions?

2. Questions regarding parents

Was there any particular response that stuck out to you?

Based on the responses, is there anything specific you think would deter a parent from allowing her daughter to participate in the Interpersonal psychotherapy (IPT) program?

It is common for parents to be unaware of their child's eating habits, specifically distressing ones like binge eating or loss of control eating. Since parents seem to believe (in general) that their daughters are simply "greedy" or eating because of boredom, do you think this lack of knowledge will impact whether a parent allows her daughter to participate in the IPT program?

Parents cited grief as an emotional stressor they believed may be linked to their daughter's negative eating behaviors. Do you find this to be the case in this population? Although it is already a part of the IPT program manual, do you think it should be emphasized?

In dealing with aberrant eating habits, parents mentioned the importance of preserving their girls' body image. Do you think discussion about body image should be incorporated into the IPT program?

Parents expressed a desire to be a part of IPT program. Do you think it would be beneficial to incorporate a family component (e.g., mother, grandmother) into the IPT program? Do you think the IPT program and the skills girls learn will impact family structure and/or dynamics? If so, how? If not, why not?

Parents thought the best person to lead programs was one who was not a part of the immediate community. What do you make of this? Would a person outside of the community be more appropriate?

Most of the participants thought that the IPT program focused on eating behaviors and were confused about its focus on relationships and mood in addition to eating behaviors. Do you think it would be important to provide even more psycho-education to the community before being able to effectively recruit for the IPT program?

3. Question regarding both parents and adolescents

It is apparent in both groups that rewards and incentives would be important for enrollment and continued participation? Do you agree? Is there anything else that would motivate participation?

Table 3. Adolescents' endorsements of loss of control eating, episodes, and correlates by telephone screen and questionnaire.

<i>N</i> = 21	Telephone screen	Eating Disorder Examination Questionnaire
LOC eating (%)	44	38
LOC eating episode days (Mean, SD)	—	0.81, 1.5
LOC correlates (%)		
Eating following negative emotions and/or a triggering event	37	—
Eating despite a lack of hunger	52	—
Eating that occurred during or initiated by a snack	74	—
Eating alone	30	—
Feelings of secrecy with regard to eating	41	—
A sense of “numbing” out while eating	15	—
Feelings of negative emotions following eating, such as guilt or shame	41	—

Note. Loss of control correlates were derived from previous work (117). LOC = loss of control.

Table 4. Comparison of themes across groups.

Themes	Adolescents	Parents	Community Leaders
General Eating Patterns			
Unhealthy eating patterns	✓	✓	✓
Mindless eating	✓	✓	
Eating in secret		✓	✓
Binge/LOC eating			
Various terms for LOC eating	✓	✓	✓
Triggers of LOC eating	Boredom, sadness, anger, and being upset with family members	Boredom, enjoyment of food, grief/loss	Strong negative and positive emotions, learned from parents
Body Shape Ideals/Body Weight			
Preference for larger body sizes	—	✓	✓

Generational change in body standards	—	Current preoccupation with weight and being thin	—
Distinction between “overweight” and “obese”	—	✓	✓
Relationships			
Difficulties in relationships	“Drama” at school, conflicts with mother	Adolescent laziness	—
Desires for improvements in family relationships	✓	✓	—
IPT-WG			
Reactions to IPT- WG program	Skill: “Use ‘I feel’ statements” and Skill: “Put yourself in other’s shoes” may not work	Reacted positively to the list of skills and the idea of the role-playing	Programs may be too rudimentary to engage teens

Desire for parent component	✓	✓	
Desire for behavioral component	✓	✓	✓
Factors influencing participation	Group number and incentive	Time and day of the week	—
Qualifications of an appropriate IPT-WG leader	—	Female, African American, young, patient, understanding, positive, nonjudgmental, someone who has lost weight successfully herself, and someone from outside of the immediate community	Cultural sensitivity and appropriateness, be able to interact with teenagers, formal education credentials of at least a Master's degree, and weight and past experience with eating/weight control issues

Note. Groups that share a check (‘✓’) reported similar themes. Groups with a dash (‘—’) were not queried on the specific theme. Themes that differed across groups are provided in the relevant cell. Groups with no data on the specific theme are left blank. LOC = loss of control. IPT-WG = interpersonal psychotherapy for the prevention of excessive weight gain.

Table 5. List of adaptations included in IPT-POWERUP manual.

Item	Adaptation
1	Incorporate psycho-education during a pre-session to occur before the consenting process.
2	Adapt role-plays and discussion to incorporate alternative terms to “loss of control” eating, including “being greedy” or “pigging out.”
3	Adjust delivery of skills to respect and maintain parental authority.
4	Inclusion of parental and behavioral components.
5	Incorporate activities to solidify acquired skills.

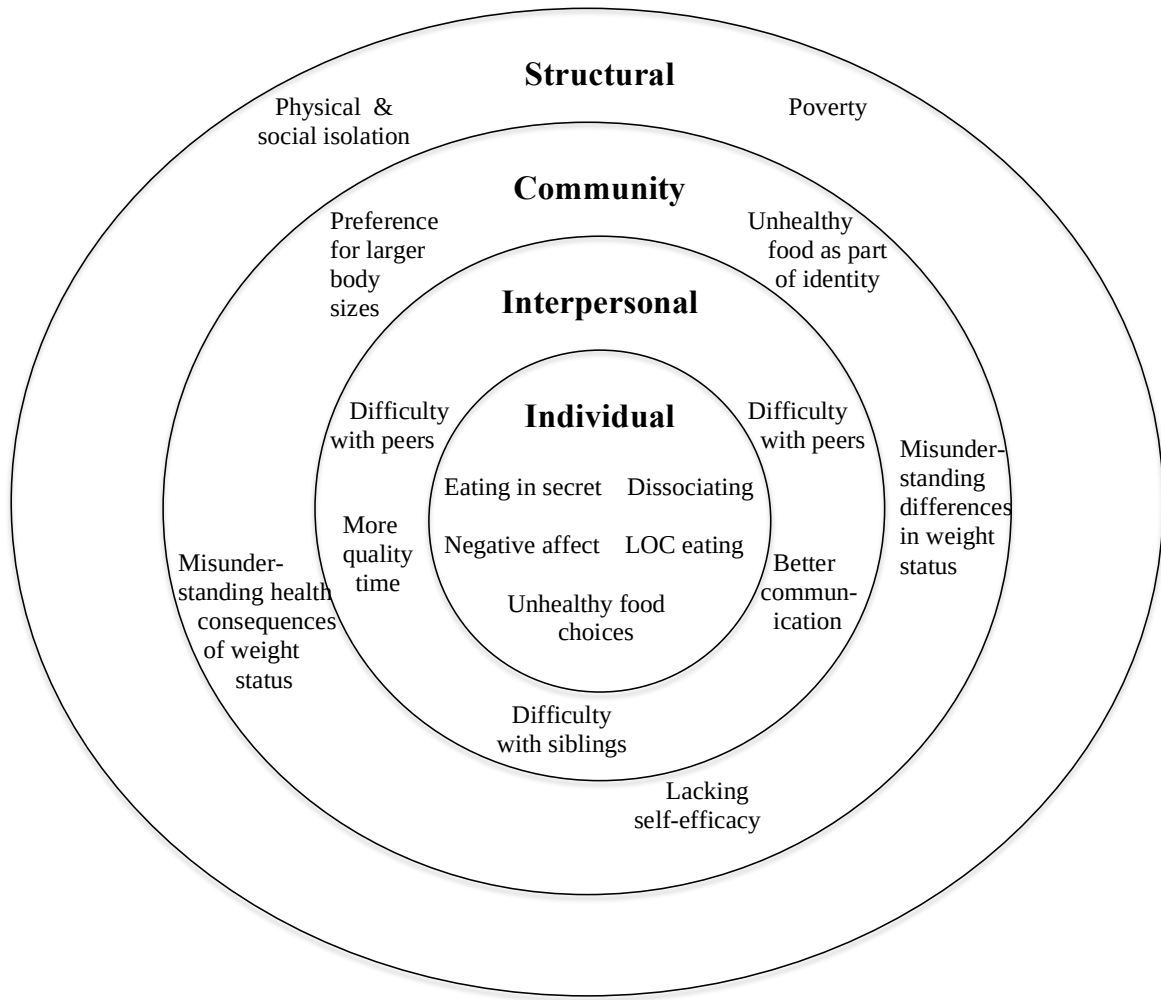


Figure 1. Categorization of applicable focus group results within socio-ecological framework.

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