Published in final edited form as:
J Child Fam Stud. 2014 November ; 23(8): 1403–1416. doi:10.1007/s10826-013-9797-z.

Adolescent Girls and Their Mothers Talk About Experiences of Binge and Loss of Control Eating

Allison A. Palmberg,
Department of Psychology, Virginia Commonwealth University, Richmond, VA 23284, USA

Marilyn Stern,
Department of Psychology, Virginia Commonwealth University, Richmond, VA 23284, USA

Nichole R. Kelly,
Department of Psychology, Virginia Commonwealth University, Richmond, VA 23284, USA

Cynthia Bulik,
Department of Psychiatry, University of North Carolina-Chapel Hill, Chapel Hill, NC 27514, USA

Faye Z. Belgrave,
Department of Psychology, Virginia Commonwealth University, Richmond, VA 23284, USA

Stephen K. Trapp,
Department of Psychology, Virginia Commonwealth University, Richmond, VA 23284, USA

Sara M. Hofmeier, and
Department of Psychiatry, University of North Carolina-Chapel Hill, Chapel Hill, NC 27514, USA

Suzanne E. Mazzeo
Department of Psychology, Virginia Commonwealth University, Richmond, VA 23284, USA

Allison A. Palmberg: palmbergaa@vcu.edu; Suzanne E. Mazzeo: semazzeo@vcu.edu

Abstract

Evidence suggests that adolescents' experience of binge eating (BE) might differ in important ways from that of adults. Moreover, although BE appears more common in African American women than other disordered eating behaviors, little is known about the influence of cultural factors on this behavior in adolescents. The current investigation used qualitative methodology to examine the perceptions of White and African American adolescent girls and their mothers regarding experiences of binge and loss of control eating. Five focus groups were completed with 19 adolescent girls (aged 13–17, 58 % African American, 41 % White) who endorsed loss of control eating behaviors. Their mothers (N = 19) also completed separate, concurrent focus groups addressing food and eating behaviors. Responses to focus group questions were analyzed using thematic qualitative analysis. Adolescents' awareness of their eating behaviors varied greatly. Girls reported some awareness of how emotions influence their eating behaviors, and described using food to achieve autonomy. Mothers evidenced awareness of their daughters' problematic eating behaviors, the effects of emotions on eating for both their daughters and themselves, and

Correspondence to: Sara M. Hofmeier; Suzanne E. Mazzeo, semazzeo@vcu.edu.

sociocultural factors influencing diet. Data from these focus groups can inform the development of innovative interventions for adolescent girls engaging in loss of control eating.

Keywords

Binge eating; Adolescent girls; Sneak eating; Qualitative; African American

Introduction

Awareness of binge eating disorder (BED) and its negative impact on physical and psychosocial functioning has increased. BED involves the consumption of an objectively large amount of food accompanied by a sense of loss of control in the absence of compensatory behaviors (i.e., vomiting, laxative abuse, excessive exercise, etc.; American Psychiatric Association 2000). Research has indicated that binge eating (BE) occurs in 17 % of African American adolescent girls and 18 % of White adolescent girls (Johnson et al. 2002). BE prevalence is higher (30 %) among adolescent girls seeking weight-loss treatment (Berkowitz et al. 1993). Moreover, BE is associated with poor psychosocial functioning; 76.5 % of individuals reporting BE behavior also met criteria for at least one other Axis I diagnosis (Hudson et al. 2007; Reichborn-Kjennerud et al. 2004). Further, the majority of individuals with bulimia nervosa (BN), BED, or any binge eating behavior reported at least some role impairment in their home, work, personal, or social lives (Hudson et al.). In sum, BE is a pervasive and distressing eating behavior.

Several researchers have proposed theoretical explanations for BE; the most prominent of these are the dietary restraint model, the interpersonal self-concept model, and the emotional coping model (Heatherton and Baumeister 1991; Polivy and Herman 1985; Woods et al. 2010). The dietary restraint model posits that dieting involves restraint from a normal amount of calories. When the body senses this deprivation, the dieter overcompensates and consequently binges (Polivy and Herman; Woods et al.). The interpersonal self-concept model suggests dieting behaviors and pro-dieting messages such as the “thin-ideal” are extremely common and normative in modern culture (Thompson and Stice 2001) yet, these pro-dieting messages exist alongside an abundance of highly palatable, calorically dense foods (Brownell and Horgen 2004). Lastly, the emotional coping model postulates that many individuals use eating as an escape from negative moods (Heatherton and Baumeister). Each theory includes unique elements; however, most researchers agree that all three offer an important perspective and additional research is needed to understand more about this complex behavior. Qualitative studies have been critical to clarifying the range of factors associated with BE.

In a particularly relevant study, Jeppson et al. (2003) conducted semi-structured interviews with eight women (ages 20–39) who met criteria for BED. Participants were asked to describe their binge process including the contextual and etiological aspects, how they maintained their disorder, and what helped them reduce the behavior. Researchers used an emergent data analysis approach, which identified major themes such as BE serving as: a coping mechanism, as a method of improving self-regard and status, and as a strategy for

physiological reinforcement. Some participants described bingeing and purging as a form of rebellion and became proficient at the behaviors, deriving a sense of competence from them. They also noted emotions such as boredom, stress, anxiety, and rejection serving as, "triggers" for bingeing. Lastly, many noted that they simply enjoyed the taste and process of eating. Authors suggested that participants revealed an overall need for self-determination and control. Overall, Jeppson and colleagues provided rich description of the antecedents, process, and consequences of BE in young women. Yet, less is known about these eating behaviors in youth.

Other qualitative research has examined the discourse of weight control, modern conceptions of body image, and the positive traits associated with individuals who meet the thin-ideal (Malson and Burns 2009; Riley et al. 2008). Discourse analyses reveal that, in Western culture, the "healthy body" is viewed as attractive, and considered to reflect self-discipline (Burns and Gavey 2004; Malson 1998, Malson and Burns). Gender also plays an important role in our perceptions of body image and eating. For example, women are much more likely than men to describe feeling "guilty" or "controlled by food" (Beardsworth et al. 2002). However, little is known about adolescent girls' views of eating (and overeating) behaviors.

Quantitative research suggests that BE behavior might manifest differently in this age group compared with adults (Decaluwe et al. 2003; Glasofer et al. 2007). Specifically, among adolescents, the loss of control (LOC) experienced during BE appears to be the symptom most strongly associated with negative psychological outcomes such as anxiety, disordered eating thoughts, and weight/shape concerns (Glasofer et al.; Goldschmidt et al. 2008; Johnson et al. 2003; Tanofsky-Kraff et al. 2008). Given this presentation of LOC eating in youth, specific BED criteria have been developed for this age group. In particular, numerous studies have shown that it is not the amount of food that is consumed but rather the "zoning out," lack of awareness, and difficulties stopping eating (i.e., LOC eating) that are most strongly correlated with other forms of pathology in adolescents, and consequently, most clinically relevant (Tanofsky-Kraff et al.). Moreover, because children and adolescents' ability to self-monitor is inherently decreased during LOC eating episodes, it is difficult to assess accurately the amount of food consumed (Johnson et al. 2002). Further, adolescence is a period of great physical growth, necessitating increased calorie consumption. Therefore, the amount of food consumed during a LOC eating episode might not be relevant to the determination of a BED diagnosis in adolescents (Johnson et al.; Tanofsky-Kraff et al.). Given the complexities involved in accurately assessing BE in children and adolescents, the experience of LOC eating is generally considered more important than the amount of food consumed for this age group (Decaluwe et al.). Thus, we use the term *LOC eating* throughout the remainder of this manuscript to refer to all out of control eating episodes.

Children who endorse LOC eating report higher body mass indices (BMI), increased adiposity, and more anxiety, depressive symptoms, negative moods, and body dissatisfaction than children who do not endorse LOC eating (Morgan et al. 2002). Culture and ethnicity are other important factors associated with LOC eating. African American adolescent girls appear particularly vulnerable to BE (Dounchis et al. 2001; Shaw et al. 2004; Striegel-Moore et al. 2005). This could be related to a number of factors, including this group's

higher overall risk for obesity and more limited access to healthier food options (James 2004; Kittler and Sucher 2001). Qualitative research has provided insight regarding the role of food in African American culture including the fact that many social activities within this group center around eating (Bruss et al. 2005; James; Kittler and Sucher). This research also suggests that foods eaten at family gatherings are usually high in fat, sugar, and calories. The repeated pairing of these types of foods with family and social activities might create a link between their consumption and positive emotions. This link could heighten susceptibility to overeating in response to emotional distress (Kittier and Sucher). It is important to note that such frequent extended family gatherings and centrality of food are not unique to African American culture, and are also common in many European, Asian, and Latino cultures (Bruss et al.). However, African American families might pressure each other to consume more food than an individual intends or wants to eat, especially traditional "soul food," and subsequently promote and maintain poor dietary habits such as LOC eating (James).

Moreover, in many cultural groups within the United States, including (but not limited to) African Americans, women are typically the sole purchasers and preparers of food and are the individuals most likely to provide nutritional advice and information (James 2004; Little et al. 2009; Lupton 1996). Mothers' attitudes towards eating, particularly disinhibition, are often also evident in African American girls and might contribute to their increased rates of LOC episodes (Fisher and Birch 1999; Ruther and Richman 1993; Stunkard and Messick 1985).

In sum, although LOC eating is linked to negative physical and psychosocial comorbidities, few qualitative studies have attempted to understand how adolescents experience these eating behaviors. In addition, most research has included White samples, yet African American girls seem particularly vulnerable to LOC eating. Moreover, little is known about effective treatments for LOC eating in adolescents. The development of effective interventions should be grounded in an understanding of adolescent girls' experiences of these eating behaviors. Therefore, the current study critically evaluated focus group interviews conducted with African American and White adolescents (who endorsed LOC eating) and their mothers. A thematic analysis approach was used to uncover, define, and analyze the major themes and subthemes of the participants' perspectives (Patton 2002).

Method

Participants

This study was reviewed and approved by the Institutional Review Boards at Virginia Commonwealth University (VCU) and the University of North Carolina at Chapel Hill (UNC). Nineteen girls (M_{age} = 14.52, *SD* = 1.17) and their mothers participated in concurrent, but separate, focus groups. Groups were open to any primary caregiver (including fathers), but only mothers contacted the research team to express interest in participating. Recruitment flyers for the focus groups were distributed in the greater metropolitan areas of Richmond, Virginia and Chapel Hill, North Carolina. Flyers were shared with school guidance counselors and nurses, pediatricians, general family practitioners, participants in VCU's adolescent obesity program, and community institutions

such as the YMCA and local churches. Flyers presented the general question, “Are you concerned about your teen girl’s eating?” and referred generally to LOC-related behaviors such as sneaking food, overeating, and erratic eating schedules.

Interested individuals contacted the researchers. An initial phone screen was conducted with the caregiver. Caregivers answered questions about the feasibility of attending a focus group and whether their adolescent girl displayed specific eating behaviors (overeating, sneak eating). If these eating behaviors were present and concerning, with the caregiver’s verbal consent, the adolescent was interviewed. Girls were included in the study if they were between the ages of 13 and 18, were not a ward of the state and were accompanied by their primary caregiver, their caregiver was over the age of 18, they engaged in LOC eating at least twice each month within the last 3 months, and reported no mental health problems that would make it difficult for them or their caregiver to participate. Exclusionary criteria included: alcohol or drug dependence in the last 3 months, current suicidal intent or clinically significant self-harm behaviors, diagnosis of BN or anorexia nervosa (AN) within the last 3 months, presence of a developmental disability or neurological impairment that would hinder participation in the focus group, psychosis (including Schizophrenia or Bipolar I Disorder), and not being fluent in English. If adolescents were eligible and interested, they were invited to attend a focus group. Participants’ demographics are depicted in Table 1.

A total of five pairs of focus groups were conducted with 19 adolescents and 19 mothers. Eleven adolescents and mothers identified as African American (58 %), six as White (41 %), one as Hispanic/Latina (0.5 %), and one adolescent identified as bi-racial (Indian-White; 0.5 %) while her mother identified as Indian (0.5 %). All ethnicities were recruited to facilitate within and between group influences on eating behavior. Eight mothers (42.1 %) reported that they were married, five (26.3 %) were separated, five (26.3 %) were single, and one (0.5 %) reported her marital status as “other”. Eight mothers (42.1 %) reported their highest level of education as a college degree, four (21 %) had received a graduate degree, three (15.8 %) reported some graduate school, and four (21 %) reported some college. Focus group sizes ranged from 3 to 6 participant pairs at a time. Participants received $25 gift cards as a token of appreciation for their time.

Measures

Loss of Control Eating Questionnaire (LOC-ED)—During the initial phone screen interview, adolescents completed the Loss of Control Eating Questionnaire (LOC-ED; Tanofsky-Kraff et al. 2008). The LOC-ED is a structured interview that assesses binge and LOC eating frequency and related characteristics, as well as hunger and satiety, emotions, mood, and compensatory behaviors. This measure is currently undergoing validation; data from multiple groups, including our participants, will inform this psychometric evaluation.

M.I.N.I International Neuropsychiatric Interview Version 6.0 (M.I.N.I.)—The M.I.N.I. is a brief structured clinical interview that assesses Axis I disorders as described in the *DSM-IV* (American Psychiatric Association 2000; Sheehan et al. 1998). Four modules of the M.I.N.I. were conducted with each adolescent to exclude individuals with diagnoses of AN, BN, alcohol or substance abuse, as well as those who engaged in self-harm, or

manifested significant suicidal ideation; (self-harm and suicidal ideation were assessed immediately before beginning the focus group, rather than on the phone, for safety reasons). The M.I.N.I. yields reliable and valid scores compared with other diagnostic screening tools such as the Composite International Diagnostic Interview and the Structured Clinical Interview for *DSM-IV* (Sheehan et al.).

Interview Protocols—Two separate protocols were developed for adolescents and their mothers. Protocols were rationally derived from an extensive literature review, and addressed three topics using open-ended questions and probes: (1) Eating and Emotions; (2) Defining Binge Eating and Thoughts about its Etiology; and (3) Culture, Eating, and Weight.

Procedures

Focus groups were selected as the methodology for this study as they elicit open discussion (with group facilitation) of participants' personal perceptions and associations, providing a rich description of experiences from many interacting viewpoints (Morgan 1998; Stewart and Shamdasani 1990). Six different therapists (with at least some doctoral-level coursework and relevant clinical experience) conducted the focus groups (two moderators per group). One White female and one African American, Hispanic/ Latina, or Asian American female moderator were present for each group. All moderators were trained to facilitate the protocol. The focus groups were both audio and video-recorded. Video-recording was used as a secondary method for obtaining the verbal data and to observe body language to assess expressions of agreement or disagreement with other members. In addition, it is difficult to understand and discern all voices with audio-recording alone.

There are many advantages to the use of focus group methodology for this study. First, focus groups are considered particularly helpful in learning about topics that are poorly understood via empirical methods, such as LOC eating among adolescents (Krueger and Casey 2008; Morgan 1998). Second, focus groups allow flexibility to direct the conversation to fit participants' viewpoints and nuances such as language and emphasis (Heary and Hennessy 2002). This was helpful in the current study, as it enabled adolescents to use their own terminology. Third, the focus group format provides structure. In the current study, this structure enabled moderators to organize the time spent on each topic (Krueger and Casey; Morgan). Fourth, relative to individual interviews, focus groups are cost-effective and time-efficient, as members gather once rather than individually.

It should be noted that the focus groups in the current study were used as formative research for the development of a group intervention for adolescent girls with LOC eating. Therefore, the focus groups enabled the girls to interact with each other as they might in the subsequent intervention. Both adolescent and parent groups ended after it had been ensured that participants completed all interview questions, received their compensation, and had the opportunity to ask any remaining questions.

Data Analysis

Trained research assistants transcribed all focus group audiotapes verbatim. The first author checked transcriptions for accuracy and consistency in format. Data collection was considered completed when saturation was attained (Guest et al. 2006; Miles and Huberman 2002; Patton 2002). For the purposes of this study and thematic analysis, coding was completed in stages. Therefore, the first few transcripts were coded before the other focus groups occurred. In this way, we could quickly and efficiently determine if each new group was adding to or changing the general structure of themes. After the first two transcripts, a definite pattern in coding emerged that began to organize the data into themes and subthemes. Because there was diversity in group sizes, participants' ages, and ethnicities, we continued to recruit to ensure that all viewpoints were heard. It was determined by the research team that no new perspectives that altered the codes or themes emerged after the fifth group for both mothers and adolescents. The majority of codes were created after the fourth group (after 14 pairs of mothers and daughters), yet one more group was conducted to be entirely confident of saturation. After discussion among the researchers conducting the data analysis and other collaborators, it was determined that the dataset with 19 participant pairs yielded largely similar viewpoints within and among each of the ten focus groups. It should be noted that minority viewpoints were embraced and saturation was considered with these perspectives, as well.

Data analysis was guided by a method of qualitative analysis known as thematic analysis (Boyatzis 1998; Braun and Clarke 2006). Thematic analysis is a widely used technique that seeks to identify, analyze, and report themes within and across data by organizing data and providing rich description (Braun and Clarke). This is an active, flexible analytic process that can be used with many frameworks. In the current study, a realist method was used which allowed for the experiences, reality, and meaning to come from the participants rather than pre-existing codes or themes (Potter and Wetherell 1987; Widdicombe and Wooffitt 1995). Therefore, coders used an inductive approach to coding and analysis to ensure results were data-driven. The description of resulting themes and sub-themes in the current study can be considered a rich thematic description of the entire data set instead of a detailed account of one aspect of LOC eating. Although some depth and complexity might be lost, this style of reporting was chosen as the phenomenon of LOC eating is under-researched and viewpoints of adolescents and their parents are not well known.

After verbatim transcription of spoken words was completed and general observations of body language were made (nods, shaking of heads, pauses, etc.), the first author and a secondary coder familiarized themselves with the data by repeatedly reading through the transcripts and then coding each line of the data at a semantic level for the major idea expressed (Braun and Clarke 2006; Miles and Huberman 1994). After each coder had reviewed two transcripts, coders met to discuss main ideas and any inconsistencies in interpretation. Throughout the coding process, no discrepancies emerged. After all five transcripts for both parent and adolescent groups had been coded, the first author read through all codes, and organized and categorized the codes into themes by sorting and collating all relevant data into identified themes and subthemes. A theme was identified as a recurring and patterned response across all participants that captured something important

about the data in relation to our research question. Themes for both adolescent and parent groups were considered integral when the majority of participants across all groups expressed viewpoints that fit into the theme and/or agreement with an idea expressed by others. All merged codes and subsequent themes were checked and validated for accuracy with the secondary coders. Subthemes that provided structure within each theme emerged and were considered in further review and analysis.

The first author completed further review of the themes and subthemes to ensure internal homogeneity (data within themes cohere meaningfully) and external heterogeneity (clear and identifiable distinctions between themes; Patton 2002). Reviewing the themes and subthemes occurred in two levels. In the first level, the first author read all collated extracts of the data to ensure that a pattern was coherent within each theme and subtheme. The second level of review was completed as the themes and subthemes were reviewed in relation to the entire data set. Subsequent interpretation and analysis of the themes and subthemes allowed for naming and definition of the essential elements of each. This phase was loosely directed by the knowledge of the main frameworks of the dietary restraint, interpersonal self-concept, and emotional coping models of BED. Understanding of this theoretical framework for BED and LOC eating provided a basic direction for interpretation, yet the themes generated relied on the evidence within the focus group data as consistent with a realist framework (Boyatzis 1998; Braun and Clarke 2006).

One important aspect of qualitative research, which was used in the current study, is triangulation (Denzin 1978; Krefting 1991; Patton 2002). This technique examines perspectives of the phenomenon under study by using multiple data sources. In the current research, investigator triangulation was utilized by having several investigators conduct the focus groups and assess the transcriptions. Separate teams of researchers served as moderators and as coders. Therefore, no role overlap occurred. In addition, the first author coded adolescents' and mothers' transcripts, yet the secondary coder differed for each category of focus groups. This helped ensure that the secondary coder for the parent focus groups was not influenced by coding the adolescent groups and vice versa. Theory triangulation involved the openness to many types of psychological approaches for interpretation of the themes (i.e. cognitive, psychoanalytic, humanistic, etc.).

Additionally, consistent with qualitative and thematic analysis, the first author continually recorded ideas and observations in personal memos (Maxwell 2004). These memos and observer comments served as an additional form of data. Memos noted participants' body language, general affect, and their interactions with each other; these data were essential in generating themes. Memos also allowed for flexibility in thoughts about interpretation, and provided a record of the coding process (Maxwell).

Results

The data analysis process revealed major themes for both adolescents and their mothers. Themes included: (1) "Awareness and Lack Thereof of Eating Behaviors," within which LOC eating, BE, and sneak eating hold different meanings; (2) "The Influence of Emotions on Eating Behaviors," including both positive and negative emotions that lead to eating

behaviors and the short and long-term consequences of these behaviors, and (3) "Culture, Eating, and Weight," which included how messages from family held particular importance to both adolescents and mothers. The following section provides greater detail regarding each major theme and their facets.

Awareness and Lack Thereof of Eating Behaviors

Loss of Control Eating—Although each adolescent was screened for and endorsed LOC eating on the phone, in the group, the girls did not initially openly identify with descriptors of behaviors associated with the terms "loss of control" or "binge eating." Yet, when probed more directly about these behaviors (e.g., with specific examples), participants did relate to them. Adolescents' initial inability to relate to LOC terms might reflect a lack of self-awareness, a conscious decision not to identify with this behavior for fear of potential social ramifications, or the use of different terminology to describe these issues. The following quote illustrates both understanding of the behavior and concurrent use of different language to articulate the experience:

> Adolescent 16: Umm, I don't binge eat or anything like that. Like, sometimes, I just feel like I have something I just shouldn't have. I just want it that moment… you don't really think about it, like you can't really tell how you feel because I don't really think about it.

For many teens, LOC eating was associated with difficulties navigating new responsibilities regarding food selection. As is appropriate given their developmental stage, they might want more autonomy but, when free to make their own decisions, become overwhelmed and more vulnerable to engaging in LOC eating. One adolescent shared her thoughts:

> Adolescent 18: I think it's pretty easy to get away with unhealthy eating…I feel like it would be better [if their parents continued to regulate food]…having to watch it like that [on their own], you just go and get whatever you want and don't think about it, because you can.

Binge Eating—About half of the teens were aware of what it meant to "binge eat." Similar to LOC eating, many girls denied BE themselves, and described those who do as "selfish," "greedy," and "lacking self-control." For those who did endorse BE, this behavior was thought to occur primarily in the context of a response to dietary restriction (e.g., after a long school day) and during social events, such as family gatherings and holidays. Most adolescents described hectic schedules both in and outside of school. They reported that they normally do not eat at lunchtime because it is too close to breakfast and are unable to snack during classes or before after-school activities. Therefore, many described eating when they get home to relieve intense hunger. One girl (adolescent 3) noted the link between hunger and access to convenient foods, "Like when you're hungry, it's like, 'I want food now.'… you just put something in the microwave, something quick."

Adolescents reported that BE also occurs during social activities and with friends and family who have established a norm of eating large quantities of unhealthy foods. Adolescents did not see BE as a problem as long as those around them were also engaging in this behavior. One teen described times when she, her mother, and aunt go to the gym together and then

eat at a buffet restaurant as a reward. In addition to the perception that the meal was merited, she also noted that her food intake increased to counterbalance the monetary cost of the meal,

> Adolescent 6: Well, like the day before you called… that was one of the days we went to [a popular buffet restaurant]… after the gym. If they eat a lot they'll be like, 'oh you're getting your money's worth.'

In contrast to their daughters, mothers evidenced awareness of both their own LOC eating behaviors as well as that of their daughters. Further, mothers reported that the discussion of both their own and their daughters' eating was upsetting, particularly when describing lack of awareness of the amounts of food consumed, difficulty responding appropriately to hunger and satiety cues, the speed with which the food is consumed, and the fact that LOC eating occurred in response to dietary restriction and certain emotional states. One mother noted:

> Mother of Adolescent 14: You know, as an adult we are aware. Whereas a kid, they're unaware so theirs [eating in response to stress] might be worse because we can cognitively say, 'okay, hold on. I know I've been under a lot of stress and I noticed I've been eating a lot,' but kids can't really see that that's what's going on. They have no idea why it is.

Much like their daughters, mothers reflected that their own busy schedules interfered with healthy dietary choices. Many noted that healthy food is not convenient, that they are too tired to prepare meals, and that it is difficult to plan meals ahead of time. One mother expressed guilt that she did not cook more for her daughter and that this might perpetuate unhealthy eating behaviors across generations:

> Mother of Adolescent 12: I find myself eating more when I am stressed and bored. I just feel like I've had a stressful day, don't feel like cooking; let's go out to eat… in the back of my mind I already know, you shouldn't.

Another common concern of mothers was their daughters' apparent lack of concern with their eating habits. Mothers expressed a strong wish to help their daughters but were unsure about how best to do so:

> Mother of Adolescent 6: It just brings to mind that she's just bingeing at this point because she knows it's her favorite food. So how do you stop that, though? Unless you physically go down there and say, 'No!' And you get like that look from your child, 'But mommy, I'm so hungry!' And your heart goes out to her but you know, you stop and look at the size of this child and, like, should they be eating? So I'm just curious to know how to learn how to stop that…think to herself you know, 'am I full?'

Sneak Eating—Sneak eating was endorsed by almost all of the teens. Interestingly, adolescents were very forthright and even upbeat when discussing this behavior. They saw it as a way to be rebellious, achieve an adrenaline "rush," and take ownership of their favorite foods. Food and the process of eating also seemed to provide a means of asserting control, particularly when certain foods were off-limits. Yet, this often led to LOC eating. Several

mothers were aware of their daughters' apparent attempts to use food to gain a sense of control, and expressed a great deal of concern about this habit, often leading to a discussion with their daughter (mother of adolescent 16): "Or you find a wrapper from something. I'm like, 'Where'd this come from?' Because she knows those foods are never available in the house, so she knows that is not a right choice."

Another common reason the adolescents reported sneaking or hiding food was to evade others' judgment. Many noted their family and friends would comment on the type and amount of food they consumed, and questioned whether they could still possibly be hungry. One adolescent (adolescent 4) explained, "If people have already eaten a lot and, you know, people don't want you to eat more." Similarly, mothers also believed their daughters choose to sneak or hide food to avoid shame from others:

> Mother of Adolescent 9: I think it might be shame about the eating. They get the message either from their peers or from culture or from their parents that it's wrong to, you know, eat this kind of food. And they want the kind of food, you know, that tastes good to them for whatever reason and so the shame kicks in.

Finally, mothers expressed concern that their daughters' LOC eating had additional family and financial consequences, including reduced food availability for other family members.

Influence of Emotions on Eating Behavior

Positive and Negative Emotions Lead to Loss of Control Eating—Adolescents noted that LOC eating tends to occur in response to emotional states, both negative and positive. Teens reported eating when feeling angry, stressed, anxious, sad, lonely, frustrated, and to distract themselves from uncomfortable situations. One adolescent (adolescent 8) described turning to comfort foods when stressed, "Because when I get stressed, I sure do go and get me some chocolate." It thus appears that these girls have yet to develop effective strategies to cope, or use food as a fast way to manage negative emotions. One adolescent described her tendency to seek out food when feeling anxious, "When you are panicky, or whatever, about something, and you're just not thinking about what you are doing, and you just kind of wander off into the kitchen and start eating some honey buns, or something."

Adolescents acknowledged that positive emotions also influence their eating, including celebrating achievements. Some of the adolescents reflected on using food as an occasional reward. One described:

> Adolescent 7: I know that I should already get honor roll but—and I shouldn't get a reward because I know I'm supposed to do it. But sometimes, like once in a while I'm like, 'Hey I got honor roll, let's go out to eat tonight.'

Many adolescents also described eating when bored, to "pass the time" and, "because I can." They reported enjoying the freedom to select what to eat and using this opportunity to savor the taste and smell. One girl connected LOC eating with being alone and bored:

> Adolescent 2: If I am home alone at night, and I just lying there watching TV or whatever. Like there's nobody there so why don't you just eat something? The

> point that I've eaten too much is like, when I like lay down to watch TV and then I'll get back up and get more food. And then I'll come back and go back.

Adolescents' responses strongly suggested that they felt free to eat however and whatever they want when alone. Many noted feeling "impulsive" and "carefree" when engaging in this behavior. Adolescents' self-awareness is inherently diminished when engaging in LOC eating which may reinforce this behavior. One girl (adolescent 16) highlighted this cycle, "I don't usually remember why, it's just sort of confusing and annoying because you don't even remember what you did." She went on to comment, "I mean, when you lose control… you're kind of thinking about what you're doing and you're kind of not because you're just-it's like you're in your own world."

Short and Long Term Consequences—Girls reported that, in the short-term, eating provides immediate relief and improved mood. Some also reported that eating helps them feel less stressed, relieves hunger, and provides an opportunity to connect with others. One adolescent (adolescent 4) described short-term relief, "For the most of the time I just feel more relaxed, almost, when I'm eating." Yet, participants also reported long term consequences that elicited more intense responses. They described feeling "pitiful," "guilty and shameful," "regretful," physically uncomfortable, dissatisfied with their bodies, fear of getting in trouble, and confusion about why they engaged in the behavior. One (adolescent 16) articulated feeling worse in the long-term, "But it makes it worse in the end because after you feel even worse for, like, forgetting about it [particular problems]."

Consistent with their daughters, mothers noted eating in response to emotions, and expressed awareness of the link between emotions and their daughters' eating behavior. However, in contrast to their daughters, mothers typically referred only to negative emotions such as anger, sadness, and stress. Almost all of the mothers used the term "comfort" to describe eating in response to emotion. One mother (mother of adolescent 12) described her daughter's view, "Joy, that's what we used to say—joy. Food is joy. She equates food with joy," while another (mother of adolescent 11) shared, "I tend to eat more when I'm stressed. I find it comforting. So does my daughter." One mother described her previous struggle with emotional eating and turning to food when she needed support:

> Mother of Adolescent 8: I realized a lot of things, and it was that I used food as my friend. 'Cause food doesn't argue back, food doesn't make you feel bad, food doesn't say "whatever." Food is just what it is. And, of course, you pick things you like, chocolate ice cream. You know you'll be okay.

An interesting reflection from the mothers was their concern for their daughters' emotional states, in general. They reported feeling grateful that anything (even food) improved their daughters' mood, and encouraged their daughters to open up to them. One mother's description emphasizes this concern:

> Mother of Adolescent 9: Yeah, I find myself, my daughter, so moody and I am so worried about her on some level that I don't care if it's an ice cream sand-you know sandwich that gets her out of her room and talking to me. I'm glad, you know —I, any opportunity to engage or to see her feeling better.

Culture, Eating, and Weight

Many adolescents and their mothers discussed how the fast pace of modern life influenced their eating habits. Mothers reported having little time for home-cooked meals, and easy access to unhealthy options. In particular, mothers reflected feeling overwhelmed and stressed by the competing demands of working, and caring for their families and community. This stress seems to exacerbate risk of LOC eating for both adolescents and their mothers. One mother (of adolescent 2) shared, “I think society has had an influence on everybody. Everything is quick, and with our schedules everything is quick, quick, quick, fast-and you don’t have to cook anymore.”

When asked their opinions about how unhealthy eating habits develop, several African American participants noted that certain traditional foods are more present in their households and peer groups. Some further described that their peers ostracized and bullied them if they did not eat stereotypically, “Black foods.” They expressed awareness of the “soul food” stereotype yet many reflected a belief that the stereotypes are false. One adolescent (adolescent 7) articulated this, “Okay, I’m Black. I need to eat some fried chicken because all Black people like fried chicken. And maybe I need to always eat soul food on Sundays because that’s what Black people do.”

Another important aspect of African American culture is the centrality of food in family and social gatherings. A few participants discussed this issue and noted that their families, “are always cooking” or they, “always have something to celebrate.” Adolescents described feeling pressured to eat large portions and certain traditional foods when with their extended family or while attending community functions. Mothers highlighted similar ideas when discussing their family background and experiences with food growing up. They reflected regularly being served large portion sizes and were instructed to “clean their plate.” One mother described that typical meals in her household were always large regardless of the occasion:

> Mother of Adolescent 12: I can never remember not having a big meal, you know it may not be as big as on Sundays but it was a big meal. For me looking back now and even to this day, my mom cooks enough food for an army…we had fried chicken, we had turkey, we had stuffing, we had potato salad, we had macaroni and cheese, we had string beans, we had greens, you know? We had coconut pie, homemade cake. You know, because that’s what my mom does.

Messages from Family—Participants also discussed receiving many confusing and sometimes contradictory messages from their immediate and extended families regarding food choice, eating patterns, emotional coping, and body image. Positive messages included concern for their health (related to family history) and messages intended to motivate them to lose weight and eat healthier. Negative messages were seen as critical and hurtful, and most commonly involved comparison with other family members. Adolescents reported that messages from their family were connected to food choice and consumption, as well. For example, several reported being told to eat less food, or healthier foods; however, other family members were not given the same advice. Girls suggested that they were given this specific advice because of their size, perhaps reflecting their family members’ concerns

about their appearance or health. At the same time, girls reported being stigmatized and teased by other family members when they attempted to eat in a healthier manner. This might create confusion about the relationship they should have with food and their bodies and may be indicative of their family members' own conflictual relationships with food. One adolescent described the message she receives from her grandmother:

> Adolescent 2: Like sometimes when I be at my grandma's house, she-my grandma-be comparing us to our size. I be like "lady what is your problem?" She compares, like, the size of our thighs and our stomachs. She's helping us but, like, she ain't got to do that every time we come over there.

In addition, many teens commented on observing their mothers' troubled relationships with their own eating and weight. Many felt frustrated by their mothers' body image concerns. One adolescent articulated this experience:

> Adolescent 3: My mom always says she's like really overweight, which I really can't stand. Like, it makes me feel a little bad because I know how, like, she cares about her body a lot and I don't always at times. [My mom] Makes me feel like I should care more than I do.

Mothers noted that they commented on their daughters' bodies and health for the purpose of raising their concern about familial disease risk factors related to weight and eating behaviors. One mother discussed her fears about her daughter's risk of diabetes:

> Mother of Adolescent 6: I'm like, no, because you had that one sugary thing, and then I remember the doctor saying she's pre-Type II diabetes …it's the genetic component, not so much what she's eating. She has no understanding of what that means. And my husband doesn't understand because everybody else, they had it, too.

African American families seemed more direct in expressing their views about their daughters' eating habits and body size compared with White participants. Yet, both African American and White mothers noted that the intention behind these comments was to encourage their daughters' healthy choices and enhance their motivation to make positive changes. However, it was also noted (by daughters) that sometimes, the way in which these comments were phrased was hurtful. It also seemed as though African American families were (on average) more motivational and positive in their comments, whereas White families were more cautionary or critical. For example, one White teen talked about intense negative pressure she feels from her mother:

> Adolescent 3: Ever since my mom started going to a gym she started commenting how much I ate, how big my stomach is. I find that ridiculous…it's really annoying. 'Cause she saying because I'm short I should watch what I eat, cause I can get really fat.

Overall, the themes and subthemes expressed an overall pattern that environmental, intrapersonal, and interpersonal factors contribute to binge and LOC eating in adolescents. Specifically, participants expressed that environmental factors such as busy schedules, unconventional meal times, and the convenience of less healthy options reinforce binge and LOC eating, while intrapersonal factors such as a need for autonomy and the restriction of

certain foods by others might lead to sneak eating. Additionally, both adolescents and mothers recognized the role of emotions as "triggers" for their eating behaviors. Lastly, peer and family messages regarding what and how adolescents should eat influenced several eating behaviors (BE, LOC eating, and sneaking food). Notably, mothers and adolescents shared many perspectives such as the convenience of unhealthy foods, limited time to eat healthily, using food to cope with positive and negative emotions, and the influence of peers and family on food selection. Yet, mothers and their daughters differed in their degree of concern about eating behaviors such as BE, LOC eating, and sneaking foods.

Discussion

The current study used a thematic analysis approach to elucidate LOC eating as described by adolescent girls and their mothers (Braun and Clarke 2006). Results suggest that environmental, interpersonal, and intrapersonal factors work together to increase susceptibility to LOC eating, as well as, sneaking or hiding food. Consistent with the literature, dolescents evidenced little awareness of their emotions during these eating episodes and did not identify with the terms "loss of control" or "binge eating," yet, when probed, they described episodes of LOC consistent with proposed criteria (Morgan et al. 2002; Tanofsky-Kraff et al. 2008). It is important to note that the purpose of this study was not to diagnose any specific eating disorder, or to pathologize any group of behaviors, but rather, to gain a deeper understanding of adolescents' experiences of LOC eating.

Results suggested that LOC episodes were more likely to occur when adolescents were faced with choosing what to eat, when feeling impulsive, in response to positive and negative emotions, and for the enjoyment of eating alone. LOC and overeating were described as occurring in response to overwhelming hunger caused by a hectic schedule, from going long periods of time without eating, and when around friends and family who were also eating large amounts. Mothers reported that both they and their daughters engaged in LOC eating and viewed this behavior as an attempt for their daughters to exercise autonomy. Mothers also noted that these eating behaviors occurred in response to dietary restriction and convenience for both their daughters and themselves.

The busy schedules and timing of school lunches that most teens reported do not facilitate eating at regular times. These scheduling issues appear to trigger overeating, at times accompanied by LOC, in response to intense hunger. Further, adolescents are in a period of physical growth that necessitates a higher caloric intake and more frequent eating (Rosenbaum and Leibel 1998). When they are unable to do so because of a rigid schedule, they might overeat at their next opportunity. Changes to school policies regarding meal scheduling might improve adolescents' eating habits. In addition, it is important to encourage adolescents to plan meals and snacks whenever possible to prevent LOC eating.

In addition to feeling out of control of their schedules, teens might feel a lack of choice regarding food selections when in the presence of others. Many reported that eating large amounts is normative in their family and they are more likely to overeat around other family members. This finding is consistent with that yielded by quantitative studies, which have also found that eating a large amount of nutrient-poor, calorically dense foods is often

viewed as “normal” in social settings (de Castro 1990, 1991, 1994). This acceptance of large portions of unhealthy foods seems to encourage teens to overeat. This societal issue is complicated by the fact that adolescents often lack the cognitive and social skills needed to assert themselves and make well-planned personal, eating-related decisions.

Family and peers also influenced the types of food the adolescents reported consuming. Holidays, special occasions, and outings with friends appeared to increase the likelihood of LOC eating. This might be due to the fact that, in these situations, eating is an enjoyable process that is rewarding in the short-term. Adolescents feel it is “what you are supposed to do” and thus, do not stop themselves from eating more than they think they should. In addition, family gatherings typically revolve around food and it is expected that individuals will partake (Schneider and Lockl 2002).

In addition, adolescents in the current study reported that emotions such as sadness, anger, and loneliness often lead them to turn to food. This suggests that distracting themselves by eating provides short-term psychological relief. Yet, they recognized that this effect does not last over the long-term and they ultimately feel guilty and ashamed about how much they ate. Mothers echoed their daughters’ use of food as a way to escape difficult emotions and described their own emotional eating in response to stress and sadness.

Turning to food seems to provide adolescents with a way to focus their attention on the process of eating and food itself, and allows them an escape from self-awareness (Heatherton and Baumeister 1991). Adolescents’ coping difficulties might be partially attributable to their developmental stage. Adolescents are generally less able than adults to think about their cognitive processes (i.e., engage in meta-cognition; Schneider and Lockl 2002). Without these cognitive or coping skills, adolescents can feel confused by their feelings. This confusion might increase anger and frustration along with a sense of feeling out of control (Merwin et al. 2010; Taylor et al. 1991). Difficulty regulating intense emotions is relatively normative in adolescence but might be compounded by individual and/ or environmental factors such as the generational transmission and modeling of eating behaviors that make girls more likely to turn to LOC eating (Downey et al. 2010). In addition, adolescents in Western society have easy access to highly processed, high fat, and high sugar foods at school and perhaps at home, which appear to have (short-term) positive physiological effects on stress (Freedman 1990; Liebman et al. 2003; Lin et al. 1999).

Mixed messages from parents and family appear to confuse adolescents further about what they should feel and think. They receive messages that they are fine the way they are and, in contrast, that they need to change to be better. Also, adolescents feel judged about their food choices. Sneaking and hiding food appears to allow them to evade this judgment and decide for themselves when and what to eat. One of the most influential messages adolescents received was delivered via their mothers’ modeling of eating behaviors and attitudes. Mothers in the current study reported feeling dissatisfied with their own eating habits and bodies, messages that are implicitly and explicitly communicated to their daughters. Previous research has indicated that mothers who are vigilant about their diets and bodies model this for their daughters (Sanftner et al. 1996; Thompson et al. 1999). In addition, parents still control much of the food access and environment of adolescents. Girls

acknowledged continuing to view their parents as the decision-makers regarding what is eaten in the household and when it is consumed, which might be normative for adolescents (Eccles et al. 1991). In many ways, being taken care of in this way seemed comfortable for the teens. Yet, they still expressed a desire for autonomy and might turn to LOC eating or sneaking food to circumvent their parents' control.

It is important to keep the food environment in mind when interpreting these data, as highly palatable foods are aggressively marketed, readily available, and are often considered more affordable and convenient than fresh fruits and vegetables (Brownell and Horgen 2004). Thus, the family messages described in this paper should be viewed within this context, rather than in isolation, to avoid blaming family members who are likely facing numerous financial and multiple role stressors while living within a problematic (at best) food environment.

Finally, both mothers' and daughters' descriptions of guilt and shame appear to reflect to the gendered context of food and eating described previously (e.g., Beardsworth et al. 2002). In particular, adolescents appeared to identify with the belief that being thin and not eating too much is what women should do to be healthy and happy.

Clinical Implications

Mothers in this study reported struggling to provide opportunities to foster their daughters' autonomy while also communicating concern for their physical and emotional well-being. Mothers aspired to help their daughters take care of their minds and bodies, but did not want to over step their boundaries and stifle their daughters' fledgling independence. Results of these focus groups suggest that education and awareness regarding emotional coping strategies might help parents teach their children skills to break the multi-generational cycle of turning to food for comfort. Parents might also benefit from learning basic coping strategies that would help them model healthy eating and body image behaviors and attitudes. Moreover, if sneaking or hiding food occurs in response to parental dietary restriction, developmentally appropriate feeding habits should also be included in interventions. It might also be important to help parents find non-food related ways to foster autonomy and independence in their adolescents, such as providing choices in other areas of their life like extracurricular activities, clothing choices, hairstyles, etc.

Further, African American families might benefit from interventions that help maintain strong family and social connections and sense of community while increasing healthy eating behavior. Examples include learning ways to prepare traditional foods in a healthier manner, and creating new family and community rituals that do not involve food. Health professionals should engage parents in a discussion of how their adolescents' eating patterns might concern them. There might be a discrepancy in how eating behaviors are viewed by adolescents and parents. Interventions based on family therapy approaches could help parents learn how to provide autonomy for their adolescents while still monitoring their behaviors. All interventions should take care to address cultural competence. It should also be noted that many researchers and those in the general public do not view LOC and related behaviors as maladaptive. The context of such behaviors (in terms of environmental,

intrapersonal, and interpersonal influences) is an important factor to consider to avoid pathologizing individuals inappropriately.

Limitations and Strengths

Limitations of this study involve the exclusive use of a group format, which might have influenced responses (Krueger and Casey 2008). Participants might have felt uncomfortable expressing their ideas or identifying with particular behaviors such as LOC eating due to shame or fear of their peers' opinions. In contrast, participants might have felt pressured to answer in a way they believed the researchers expected. An additional limitation is the sole participation of mothers. Fathers were invited to participate, although none contacted us about doing so. Therefore, the study is not able to determine the extent to which fathers contribute to their daughters' LOC eating. Future research should include male caregivers, siblings and older caregivers such as grandparents, as it is important to understand how all members of a family might impact LOC eating.

Adolescents' responses, including their lack of identification with the terms binge and LOC eating, were likely influenced by the questions asked. Alternatively, it might be that adolescents generally lack awareness of their eating behaviors. Research and treatment should be designed keeping in mind that adolescents are still developing their sense of self-awareness. Pre-interventions, such as motivational interviewing, could help raise participants' awareness and help them understand why it is important to address these eating behaviors.

Qualitative analysis is sometimes critiqued because of its lack of internal and external validity as stressed in more traditional quantitative methods. However, the main purpose of qualitative research is to understand a specific phenomenon within its context. Instead of the focus on generalizability, qualitative research is grounded in applicability (Heppner et al. 1999). A strength of this study is its direct exploration of the themes from the focus groups for both adolescents and mothers. Ultimately, the quality of the themes developed must provide social utility. In this study, the themes and subthemes were used to understand the components to focus on in the development of an intervention for adolescents experiencing BED and LOC eating (Krefting 1991; Cho and Trent 2006). These detailed descriptions of the participants' perspectives were very useful in creating an intervention for other adolescents similar to the focus group participants.

Nonetheless, the threat of bias is a concern in qualitative research. Because the study involved subjective interpretation, bias is inherent. Therefore, it was important for researchers to be acutely aware of their own constructions to reduce bias (Heppner et al. 1999). Use of several coders and open discussion of the coding process reduced subjectivity in the study (Stiles 1993). Qualitative research must be trustworthy and credibly grounded in the context and conceptual framework, but provide a new perspective and insight on the phenomenon or experience. Therefore, continual attempts to relate the data back to the overall conceptual framework are vital. This was achieved in this study by relating the resulting themes and patterns back to the initial theories in a coherent and plausible manner while still allowing for the data to drive the creation of themes and subthemes.

In conclusion, this study aimed to achieve a deeper understanding of the experience of binge and LOC eating through the use analysis of focus group data. It is vital to understand girls' subjective emotions, experiences, and perspectives to enhance recognition and treatment of this emerging issue in diverse adolescent populations. LOC eating is not well understood in adolescents. These girls and their mothers provided insight to circumstances and consequences of the behaviors. Environmental (e.g. busy schedules, convenience of less healthy options), interpersonal (e.g. family and peer pressure), and intrapersonal (e.g. positive and negative emotions, autonomy) factors appear to contribute to LOC eating, and sneaking or hiding food. The knowledge and points of view shared by these adolescents will inform future research and interventions.

References

American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4th ed.. Washington, DC: American Psychiatric Association; 2000.

Beardsworth A, Bryman A, Keil T, Goode J, Haslam C, Lancashire E. Women, men and food: The significance of gender for nutritional attitudes and choices. British Food Journal. 2002; 104:470–491.

Berkowitz R, Stunkard AJ, Stallings VA. Binge eating disorder in obese adolescent girls. Annals of the New York Academy of Sciences. 1993; 699:200–206. [PubMed: 8267310]

Boyatzis, RE. Transforming qualitative information: Thematic analysis and code development. Thousand Oaks, CA: SAGE Publications Inc; 1998.

Braun V, Clarke V. Using thematic analysis in psychology. Qualitative Research in Psychology. 2006; 3:77–101.

Brownell, KD.; Horgen, KB. Food fight: The inside story of the food industry, America's obesity crisis, and what we can do about it. Chicago: Contemporary Books; 2004.

Bruss MB, Morris JR, Dannison LL, Orbe MP, Quitugua JA, Palacios RT. Food, culture, and family: Exploring the coordinated management of meaning regarding childhood obesity. Health Communication. 2005; 18:155–175. [PubMed: 16083409]

Burns M, Gavey N. 'Healthy weight' at what cost? 'Bulimia' and a discourse of weight control. Journal of health psychology. 2004; 9:549–565. [PubMed: 15231056]

Cho J, Trent A. Validity in qualitative research revisited. Qualitative Research. 2006; 6:319–340.

de Castro JM. Social facilitation of duration and size but not rate of the spontaneous meal intake of humans. Physiology & Behavior. 1990; 47:1129–1135. [PubMed: 2395917]

de Castro JM. Social facilitation of the spontaneous meal size of humans occurs on both weekdays and weekends. Physiology & Behavior. 1991; 49:1289–1291. [PubMed: 1896512]

de Castro JM. Family and friends produce greater social facilitation of food intake than other companions. Physiology & Behavior. 1994; 56:445–455. [PubMed: 7972393]

Decaluwe V, Braet C, Fairburn CG. Binge eating in obese children and adolescents. International Journal of Eating Disorders. 2003; 33:78–84. [PubMed: 12474202]

Denzin, NK. The research act: A theoretical introduction to sociological methods. New York, NY: McGraw-Hill; 1978.

Dounchis, JZ.; Hayden, HA.; Wilfley, DE. Obesity, body image, and eating disorders in ethnically diverse children and adolescents. In: Thompson, JK.; Smolak, L., editors. Body image, eating disorders, and obesity in youth. Washington, DC: American Psychological Association; 2001. p. 67-91.

Downey LA, Johnston PJ, Hansen K, Birney J, Stough C. Investigating the mediating effects of emotional intelligence and coping on problem behaviours in adolescents. Australian Journal of Psychology. 2010; 62:20–29.

Eccles JS, Buchanan CM, Flanagan C, Fuligni A, Midgley C, Yee D. Control versus autonomy during early adolescents. Journal of Social Issues. 1991; 47:53–68.

Fisher JO, Birch LL. Restricting access to foods and children's eating. Appetite. 1999; 32:405–419. [PubMed: 10336797]

Freedman AM. Habit forming: Fast-food chains play central role in the often unbalanced diets of the inner-city poor. Wall Street Journal. 1990

Glasofer DR, Tanofsky-Kraff M, Eddy KT, Yanovski SZ, Theim KR, Mirch MC. Binge eating in overweight treatment-seeking adolescents. Journal of Pediatric Psychology. 2007; 32:95–105. [PubMed: 16801323]

Goldschmidt AB, Jones M, Manwaring J, Luce K, Osborne M, Cunning D. The clinical significance of loss of control over eating in overweight adolescents. International Journal of Eating Disorders. 2008; 41:153–158. [PubMed: 18095271]

Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. Field Methods. 2006; 18:59–82.

Heary CM, Hennessy E. The use of focus group interviews in pediatric health care research. Journal of Pediatric Psychology. 2002; 27:47–57. [PubMed: 11726679]

Heatherton TF, Baumeister RF. Binge eating as escape from self-awareness. Psychological Bulletin. 1991; 110:86–108. [PubMed: 1891520]

Heppner, PP.; Kivlighan, DM.; Wampold, BE. Research design in counseling. 2nd ed.. New York, NY: Brooks/Cole; 1999.

Hudson JI, Hiripi E, Pope HG Jr, Kessler RC. The prevalence and correlates of eating disorders in the National Comorbidity Survey Replication. Biological Psychiatry. 2007; 61:348–358. [PubMed: 16815322]

James DC. Factors influencing food choices, dietary intake, and nutrition-related attitudes among African Americans: Application of a culturally sensitive model. Ethnicity and Health. 2004; 9:349–367. [PubMed: 15570680]

Jeppson JE, Richards PS, Hardman RK, Granley HM. Binge and purge processes in bulimia nervosa: A qualitative investigation. Eating Disorders. 2003; 11:115–128. [PubMed: 16864514]

Johnson WG, Roberson-Nay R, Rohan KJ, Torgrud L. An experimental investigation of DSM-IV binge-eating criteria. Eating Behaviors. 2003; 4:295–303. [PubMed: 15000972]

Johnson WG, Rohan KJ, Kirk AA. Prevalence and correlates of binge eating in White and African American Adolescents. Eating Behaviors. 2002; 3:179–189. [PubMed: 15001015]

Kittler, PG.; Sucher, KP. Food and culture. 3rd ed.. Stamford, CT: Wadsworth; 2001.

Krefting L. Rigor in qualitative research: The assessment of trustworthiness. The American Journal of Occupational Therapy. 1991; 45:214–222. [PubMed: 2031523]

Krueger, RA.; Casey, MA. Focus groups: A practical guide for applied research. Thousand Oaks, CA: SAGE Publications Inc; 2008.

Liebman M, Pelican S, Moore SA, Holmes B, Wardlaw MK, Melcher LM. Dietary intake, eating behavior, and physical activity-related determinants of high body mass index in rural communities in Wyoming, Montana, and Idaho. International Journal of Obesity Related Metabolic Disorders. 2003; 6:684–692. [PubMed: 12833112]

Lin, BH.; Guthrie, JF.; Frazao, E. Nutrient contribution of food away from home. In: Frazao, E., editor. America's eating habits: Changes and consequences. Washington, DC: USDA; 1999. p. 213-242.

Little J, Ilbery B, Watts D. Gender, consumption and the relocalisation of food: A research agenda. Sociologia Ruralis. 2009; 49:201–217.

Lupton, D. Food, the body and the self. Thousand Oaks, CA: SAGE Publications Limited; 1996.

Malson, H. The thin women: Feminism, post-structuralism, and the social psychology of Anorexia Nervosa. London, UK: Routledge; 1998.

Malson, H.; Burns, M. Critical feminist approaches to eating dis/orders. London, UK: Routledge; 2009.

Maxwell JA. Causal explanation, qualitative research, and scientific inquiry in education. Educational Researcher. 2004; 33:3–11.

Merwin RM, Zucker NL, Lacy JL, Elliott CA. Interoceptive awareness in eating disorders: Distinguishing lack of clarity from non-acceptance of internal experience. Cognition and Emotion. 2010; 24:892–902.

Miles, MB.; Huberman, AM. Qualitative data analysis: An expanded sourcebook. Thousand Oaks, CA: SAGE Publications, Inc; 1994.

Miles, MB.; Huberman, AM. The qualitative researcher's companion. New York, NY: SAGE Publications, Incorporated; 2002.

Morgan, DL. The focus group guidebook. Thousand Oaks, CA: SAGE Publication Inc; 1998.

Morgan C, Yanovski S, Nguyen T, McDufe J, Sebring N, Jorge M. Loss of control over eating, adiposity, and psychopathology in overweight children. International Journal of Eating Disorders. 2002; 31:430–441. [PubMed: 11948648]

Patton, MQ. Qualitative research and evaluation methods. Thousand Oaks, CA: SAGE Publications Inc; 2002.

Polivy J, Herman CP. Dieting and binging: A causal analysis. American Psychologist. 1985; 40:193–201. [PubMed: 3857016]

Potter, J.; Wetherell, M. Discourse and social psychology: Beyond attitudes and behaviour. Thousand Oaks, CA: Sage Publications Limited; 1987.

Reichborn-Kjennerud T, Bulik CM, Sullivan P, Tambs K, Harris JR. Psychiatric and medical symptoms in binge eating in the absence of compensatory behaviors. Obesity Research. 2004; 12:1445–1454. [PubMed: 15483209]

Riley, SCE.; Frith, H.; Wiggins, S.; Burns, M.; Markula, P. Critical Bodies: Discourses of health, gender and consumption. In: Riley, SCE.; Burns, M.; Frith, H.; Wiggins, S.; Markula, P., editors. Critical bodies: Representations, identities, and practices of weight and body management. New York, NY: Palgrave Macmillan; 2008.

Rosenbaum M, Leibel RL. The physiology of body weight regulation: Relevance to the etiology of obesity in children. Pediatrics. 1998; 101:525–539. [PubMed: 12224659]

Ruther NM, Richman CL. The relationship between mothers' eating restraint and their children's attitudes and behaviors. Bulletin of the Psychonomic Society. 1993; 31:217–220.

Sanftner JL, Crowther JH, Crawford PA, Watts DD. Maternal influences (or lack thereof) on daughters' eating attitudes and behaviors. Eating Disorders The Journal of Treatment and Prevention. 1996; 4:147–159.

Schneider, W.; Lockl, K. Applied metacognition. The development of metacognitive knowledge in children and adolescents. Perfect, T.; Schwartz, A., editors. Cambridge, MA: Cambridge University Press; 2002.

Shaw HE, Ramirez L, Trost A, Randall P, Stice ES. Body image and eating disturbances across ethnic groups: More similarities than differences. Psychology of Addictive Behaviors. 2004; 18:12–18. [PubMed: 15008681]

Sheehan DV, Lecrubier Y, Sheehan KH, Harnett AP, Janavs J, Weiller E. The Mini-International Neuropsychiatric Interview (M.I.N.I.): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. Journal of Clinical Psychiatry. 1998; 59:22–33. [PubMed: 9881538]

Stewart, DW.; Shamdasani, PN. Focus groups: Theory and practice. Applied social research methods series. Thousand Oaks, CA: SAGE Publications Inc; 1990.

Stiles WB. Quality control in qualitative research. Clinical Psychology Review. 1993; 13:593–618.

Striegel-Moore RH, Fairburn CG, Wilfley DE, Pike KM, Dohm FA, Kraemer HC. Toward an understanding of risk factors for binge-eating disorder in black and white women: A community-based case-control study. Psychological Medicine. 2005; 35:907–917. [PubMed: 15997611]

Stunkard AJ, Messick S. The three-factor eating questionnaire to measure dietary restraint, disinhibition and hunger. Journal of Psychometric Research. 1985; 29:71–83.

Tanofsky-Kraff M, Marcus MD, Yanovski SZ, Yanovski JA. Loss of control eating disorder in children age 12 years and younger: Proposed research criteria. Eating Behavior. 2008; 9:360–365.

Taylor GJ, Bagby RM, Parker JDA. The alexithymia construct: A potential paradigm for psychosomatic medicine. Psychosomatics. 1991; 32:153–164. [PubMed: 2027937]

Thompson, JK.; Heinberg, LJ.; Altabe, M.; Tantleff-Dunn, S. Exacting beauty: Theory, assessment, and treatment of body image disturbance. Washington, DC: APA; 1999.

Thompson JK, Stice E. Thin-ideal internalization: Mounting evidence for a new risk factor for body-image disturbance and eating pathology. Current Directions in Psychological Science. 2001; 10:181–183.

Widdicombe, S.; Wooffitt, R. The language of youth subcultures: Social identity in action. London, UK: Harvester Wheatsheaf; 1995.

Woods AM, Racine SE, Klump KL. Examining the relationship between dietary restraint and binge eating: Differential effects of major and minor stressors. Eating Behaviors. 2010; 11:276–280. [PubMed: 20850063]

Table 1

Participan demographics

Participant	Location/ number	Adolescent age	Ethnicity	Caregiver ethnicity	Caregiver marital status	Caregiver level of education
1	VCU 1	16	White	White	Married	Some graduate school
2	VCU 1	15	African American	African American	Single	College degree
3	VCU 1	13	White	White	Married	College degree
4	VCU 1	16	African American	African American	Single	College degree
5	VCU 2	13	African American	African American	Separated	Some graduate school
6	VCU 2	14	African American	African American	Married	Graduate degree
7	VCU 2	13	African American	African American	Single	Some college
8	VCU 2	14	African American	African American	Married	College degree
9	UNC 1	15	African American	African American	Married	Some college
10	UNC 1	17	Indian/White	Indian	Divorced	Graduate degree
11	UNC 1	16	White	White	Single	Graduate degree
12	VCU 3	15	African American	African American	Single	College degree
13	VCU 3	14	White	White	Married	Graduate degree
14	VCU 3	13	African American	African American	Separated	College degree
15	VCU 4	15	Hispanic/Latina	Hispanic/Latina	Married	College degree
16	VCU 4	14	White	White	Married	Some graduate school
17	VCU 4	14	White	White	Separated	Some college
18	VCU 4	15	African American	African American	Separated	Some college
19	VCU 4	14	African American	African American	Separated	College degree