Negative Family Food Experiences, Ethnic Identity, and Disordered Eating in African-American Women: Measuring Relevant Risk and Protective Factors

by

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Abstract

Research with Caucasian women supports that negative family food (NFF) experiences may be a risk factor for disordered eating. To date, the examination of risk factors for disordered eating in African American (AA) women emphasizes an etic approach in which research with predominantly Caucasian samples is assumed to apply to AA women. The purpose of this research was to examine the relationship between disordered eating, NFF experiences (including mainstream, etic-based, NFF experiences and culturally-influenced, emic-based, NFF experiences), and ethnic identity in AA women. Participants (n = 251) completed measures related to disordered eating, mainstream NFF experiences, culturally-influenced NFF experiences, and ethnic identity. Participants primarily identified as AA (92.8%) and had a mean age of 22.66 (*SD* = 1.86). Using hierarchical linear regression, results showed that disordered eating was positively correlated with NFF experiences of all types (mainstream and culturally-influenced). Additionally, disordered eating was more highly correlated with culturally-influenced NFF experiences promoting the thin ideal than culturally-influenced NFF experiences promoting a curvier ideal. Finally, ethnic identity moderated the relationship between mainstream NFF experiences and disordered eating, such that when women endorsed a strong cultural connection (high ethnic identity), higher mainstream NFF experiences did not relate to a significant increase in disordered eating. Implications of this research include support for ethnic identity as a protective factor against disordered eating, specifically with regard to protecting against the impact of mainstream NFF experiences on these behaviors.

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I. Introduction

Background

Much of the research on eating disorders, as well as subclinical levels of disordered eating, has focused on Caucasian women. This research has highlighted a number of risk factors for disordered eating behaviors (defined as eating disturbances that may cause distress but may not meet the full diagnostic criteria of an eating disorder). Countless socio-cultural factors have been associated with risk, including the thin body ideal, social/media pressure, peer teasing, and body objectification (Piran & Cormier, 2005; Striegel-Moore & Bulik, 2007). Though these socio-cultural factors have strong associations with disordered eating, these factors alone (which are widely encountered) do not account for the fact that only a minority of women actually develop disordered eating (Polivy & Herman, 2004; Schmidt, 2003). In response, other risk factors have been implicated, including genetic variables, trauma experiences, and family dynamics. Together with socio-cultural risk factors, these variables account for more than 60% of the variance in disordered eating symptomatology (without trauma; Tylka & Subich, 2004). Despite this extensive work, there are some significant gaps in the literature. Most notably, researchers have begun to examine the differences in risk and protective factors of disordered eating seen in ethnic minorities.

Though the overwhelming majority of disordered eating research has been done with Caucasian women, some researchers have found that rates of disordered eating among African-American (AA) women were between 19 to 23% (Muholland & Mintz, 2001), paralleling the rates found in Caucasian women (19 to 32%; American Psychological Association, 2009; Muholland & Mintz, 2001). In addition, similar rates of binge eating and restrictive eating were found across ethnic groups in a sample of college women (Franko, Becker, Thomas, & Herzog,

2007). Likewise, the prevalence rates for individuals meeting diagnostic criteria for anorexia, bulimia, or an eating disorder not otherwise specified are similar, with 2% of AA women meeting the diagnostic criteria for an eating disorder at some time in their lives (Muholland & Mintz, 2001), compared to a prevalence rate of 0.5% for anorexia and 1-3% for bulimia among women overall (American Psychiatric Association, 2000).

Despite the clear need for the research examining eating disturbances (both eating disorders and subclinical levels of disordered eating) among AA women, most studies examine general college women and females in treatment for eating disorders, both of which tend to include predominantly Caucasian populations. Moreover, some have suggested that the lack of research on the variations in appearance of these disorders (such as pragmatic reasons for dieting and lack of fear of gaining weight) across cultures may lead to problems with accurate diagnosis of eating disorders (e.g., Becker, 2007). Because some research suggests that the correlates of disordered eating may differ across ethnic groups, even when the prevalence of eating disturbances (e.g., restrictive eating) does not differ (e.g., Franko et al., 2007), research on factors that may contribute to the development of disordered eating for non-Caucasian individuals is needed. That is, the historical approach of assuming that risk-factors found in predominantly Caucasian samples are generally representative of overall disordered eating and risk factors (an etic or mainstream approach) may miss important factors that are best understood by viewing the problem from a within-culture perspective (emic approach, or culturally-influenced)

Disordered Eating in AA Women

The little research conducted with AA women suggests that eating disturbances may not develop for the same reasons as those found for Caucasian women. For example, AA women

have been found to be less dissatisfied with their bodies, experience fewer negative evaluations of their bodies, have less concern about weight loss, and make less of an effort to achieve weight loss than their white counterparts (Abrams, Allen, & Gray, 1992; Petersons, Rojhani, Steinhaus, & Larkin, 2000; Roberts, Cash, Feingold, & Johnson, 2006; Wilfley et al., 1996). In other words, AA women appear to have fewer of the risk factors assumed to cause disordered eating based on research with predominantly Caucasian women. As such, it may be necessary to examine risk factors for disordered eating behaviors among AA women in ways that allow for the emergence of cultural differences that may exist in the etiology and experience of these psychological problems.

Cultural Influences on Disordered Eating

Ample research documents the importance of culture on the emergence and appearance of eating disturbances (see Becker, 2007), as well as the identification of factors that may protect against the development of eating and body image disturbances (e.g., Rubin, Fitts, & Becker, 2003). In some cases, changes in culture and the process of incorporating what are considered to be Western appearance values have been associated with increased disordered eating (Becker, Burwell, Gilman, Herzog, & Hamburg, 2002; Cachelin, Phinney, Schug, & Striegel-Moore, 2006; Henrickson, Crowther, & Harrington, 2010). For example, research found an increase in bulimic behavior and body image concerns among adolescent Fijian females following introduction of Western television into rural Fiji (Becker et al., 2002). In fact, researchers observed the emergence of beliefs about appearance and size (such as valuing thinness and body change efforts) that differed from traditional Fijian values among adolescent Fijian females following the introduction of Western television in to rural Fiji (Becker, 2004). Thus, there is

demonstrated value in examining culturally-influenced risk and protective factors in the development of disordered eating in AA women.

Culturally-Influenced Risk Factor: Negative Family Food Experiences. Though the factors that contribute to the development of eating disturbances are numerous (for a review, see Striegel-Moore & Bulik, 2007), some potential risk factors are more likely to be influenced by cultural experiences than others. The family environment is one area where the cultural differences may operate directly. Cross-cultural researchers have continually encouraged the examination of cultural differences in the family-of-origin as a means of better understanding clinical conclusions (Kane & Erdman, 1998) and some have suggested that family plays a key role in the socialization of the individual to cultural experiences related to eating (see Markey, 2004).

One family-related risk factor for disordered eating, Negative Family Food (NFF) Experiences, has proven extremely relevant in research on the development of disordered eating behaviors. NFF experiences include negative commentary about weight, shape, or eating behaviors, or negative modeling in those areas. NFF experiences typically take place inside the immediate family circle (though extended family and close friends may be included; Kluck, 2008). In research using samples primarily comprised of Caucasian women, family environments that emphasize thinness and appearance were linked with eating disturbances (Kluck, 2008, 2010; Young, Clopton, & Bleckley, 2004). In these studies, women who experienced more criticism and teasing from parents had higher rates of disordered eating and body image dissatisfaction. Similarly, being encouraged to diet from a parent was linked with increased body image dissatisfaction and bulimic eating behavior (Kluck, 2010). Researchers have also found that the parents of individuals with eating disturbances are likely to exhibit problematic eating

attitudes and behaviors themselves (Striegel-Moore et al., 2005). Moreover, in research on experiences of Fijian adolescent females, some participants reported receiving appearance criticism from their families that paralleled media messages to conform to the appearance ideals portrayed on Western television (Becker, 2004). As such, culture, and family as a component and source of culture, likely play a role in the expression of eating disturbances suggesting that research on the etiology of eating disorders and subclinical levels of disordered eating across cultures should include a consideration of the way in which the role the family plays in the genesis of these concerns may differ by culture. However, a review of the literature on disordered eating in AA women yielded few studies that examined familial interactions in the development of these symptoms with this population (Tyler, 2003).

The few studies in which researchers examined familial experiences related to disordered eating in black women are comparison studies between AA women, Caucasian women, and women of other ethnicities (which represents an etic approach). For instance, there was not a difference between the perceived amounts of negative criticism about weight or the degree to which family was dissatisfied with weight between AA and Caucasian women (Wilfley, 1996). However, the authors did suggest that there might be differing levels of familial support in the homes of AA women relative to Caucasian women. Similarly, in a study on AA and Caucasian women, ethnicity was not found to moderate the relationship between problematic eating behaviors in the family and binge eating disorder (Striegel-Moore et al., 2005). In another study, although there were ethnic differences between AA and Caucasian mothers' tolerance of degree to which a child was overweight, the extent to which mothers disapproved of their daughters' appearance had little effect on daughters' body image satisfaction in either group (Brown, Schreiber, McMahon, Crawford, & Ghee, 1995). This research suggests that NFF experiences

are a culturally-influenced risk factor that may highlight some similarities and differences seen in the manifestations of disordered eating in AA and Caucasian women.

Culturally-Influenced Protective Factor: Ethnic Identity. While NFF experiences may be relevant as a risk factor for disordered eating, another culturally-influenced construct, ethnic identity, may serve as a protective factor against these behaviors. Ethnic identity is generally defined as the extent to which an individual who identifies with a cultural group explores, commits, and adopts the attitudes, values, and beliefs of that cultural group (Phinney, 1990). Many researchers have suggested that when a cultural group values differ from the mainstream around eating behaviors and weight control, high levels of ethnic identity may be protective against disordered eating (Roberts et al., 2006; Root, 2001; Striegel-Moore & Cachelin, 2001; Wilfley et al., 1996). Some suggest that this is due to a decreased chance of adopting the thin ideal in a culture in which larger body sizes are preferred (Marsh & Willard, 1996; Rucker & Cash, 1992). For instance, the more strongly AA women identified with their ethnic group, the less likely they were to internalize the thin ideal (Rogers, Wood, & Petrie, 2010). Additionally, researchers have found that AA women with strong ethnic identities did not have increased likelihood for developing disordered eating (Petersons et al., 2000). Despite these findings, many researchers have failed to show support for ethnic identity as a protective factor against disordered eating (e.g. Akan & Grilo, 1995; Franko, Becker, Thomas, & Herzog, 2007; Harrington, Crowther, Payne Henrickson, & Mickelson, 2006; Wildes, Emery, & Simons, 2001). Thus, questions as to the true relationship ethnic identity has with risk factors for disordered eating still exist.

Purpose

Given the existing literature, it would seem that both AA and Caucasian women experience NFF experiences, and that NFF experiences may be a relevant risk factor for disordered eating in both populations. However, the role of NFF experiences among ethnic minorities has yet to receive sufficient attention since existing research suggests that ethnic minority women's experiences may differ from those of white women. Likewise, there are some obvious differences in the ways in which AA women experience disordered eating. For instance, AA women are reported to have higher instances of binging and purging than white women, while experiencing lower levels of body image dissatisfaction (Striegel-Moore et al., 2003). It may be that these differences are based in the ways in which NFF experiences are influenced by culture, as well as the extent to which ethnic identity may or may not play a role as a protective factor in the development of disordered eating.

This research served to clarify some of these variables in relation to disordered eating in AA women and potentially shed light on the similarities and differences seen in disordered eating in AA women. First, the research examined whether differences existed in the culturally-influenced NFF experiences of AA women as compared with mainstream NFF experiences typically measured with Caucasian women (as established in Kluck, 2008). Next, the research addressed the importance of culture in the evaluation and examination of NFF experiences when studying disordered eating behaviors. This research also involved assessing whether culturally-influenced NFF experiences would serve as a better predictor for disordered eating in AA women than mainstream NFF experiences. Finally, the research examined the role of ethnic identity in the relationship between NFF experiences and disordered eating. Because research suggests that there are differences in cultural expectations for appearance, size, and general eating (Thomas et

al., 2008), it is reasonable to speculate that these differences may change the role that NFF experiences play in the development of disordered eating. In other words, the level to which an individual adopts or adheres to specific cultural values, or the level of ethnic identity, might determine the way in which NFF experiences contribute to the development of disordered eating behaviors.

Significance of Research

Researchers have called for additional investigations of disordered eating in AA women to provide a more comprehensive picture of the risk factors involved (Talleyrand, 2012). This study is significant in that it expands the literature on familial risk factors to include AA women. Exploring ways in which AA women have NFF experiences, and how those experiences relate to the experiences typically measured with white women, can illuminate one reason that we see differences in the degree to which AA women experience disordered eating attitudes and behaviors and provide some clarity to the inconsistencies found in past research. Additionally, this research adds validity to the proposal that black women experience some duality regarding the ideals associated with food, weight, and shape. Thus, there is potential for this research to inform theory on disordered eating in this population. Additionally, researchers have suggested that ethnic identity may be one protective factor for AA women in regards to disordered eating and may be part of the explanation as to why disordered eating is seen less in AA communities (Petersons et al., 2000; Schooler et al., 2004). This research examines that hypothesis, as well as highlights how ethnic identity might moderate the effect of a relevant risk factor (NFF experiences).

Additionally, recent research indicates that the lower rates of disordered eating among black women might be changing, as more ethnic minorities are showing an increased degree of

disordered eating (Roberts et al., 2006). This makes the identification of risk and protective factors for disordered eating among AA women vital. A unique feature of this research is that it explored both a potential risk and protective factor. The identification of both risk and protective factors can assist in the establishment of prevention efforts targeted at black women at-risk for developing disordered eating. Such research may also shed light on whether similar prevention methods used with white women might also be effective with black women and thus serve as a starting point of prevention efforts.

Definitions

The following are definitions of key terms that will be used throughout this text. Definitions are provided here to aide in the understanding of research questions and hypotheses. Please note that terms listed together will be used interchangeably:

1. African-American or black (AA): African-American and/or black will refer to a person who identifies with African or Caribbean heritage and was either born in the United States or has spent a minimum of 75% of their life years living in the United States. When not spelled out in text, African-American or black will be denoted as AA.
2. Disordered Eating: Disordered eating will be defined as eating disturbances that may cause distress, including but not limited to restrictive eating and bulimic behaviors, but do not necessarily meet the full diagnostic criteria of an eating disorder. Disordered eating will be operationally defined by scores on the Eating Attitudes Test – 26 (EAT-26). Higher scores on the EAT-26 are indicative of greater levels of disordered eating.

3. Ethnic Identity: Ethnic identity is defined as the degree to which an individual has positively affirmed the belonging to a culture, explored that culture, resolved to find meaning in that culture, and committed to the attitudes, values, practices, and beliefs of that culture (Phinney, 1990). In this study, Ethnic Identity will be specifically related to the exploration and commitment of AA cultural values and practices, and will be operationally defined based on scores on the Multigroup Ethnic Identity Measure (MEIM). This measure will prompt participants to think about AA cultural values when answering items. Thus, higher scores will indicate a more mature or achieved AA ethnic identity.
4. Negative Family Food (NFF) Experiences: Negative family food experiences include negative commentary about weight, shape, or eating behaviors, along with modeling of problems or concerns in those areas. NFF experiences addressed in this research are those that take place inside the immediate family circle, specifically those related to the woman participants' affiliated with the role of mother. Two assessments of NFF experiences were examined:
    a. Mainstream Negative Family Food Experiences (Mainstream NFF experiences; FERFQ): Mainstream NFF experiences are negative experiences that are consistent with research on predominantly Caucasian women, which are assumed to reflect universal (etic) NFF experiences. These NFF experiences primarly involve the valuation of thinness and attractiveness. Thus, these experiences typically encourage the thin body ideal and model behavior related to dieting/weight loss. Operationally, these experiences will be defined via scores on the *Family Experiences Related to Food*

Questionnaire (FERFQ) scales for mothers, a measure traditionally used to asses NFF experiences in Caucasian women.

b. Culturally-influenced Negative Family Food Experiences (Culturally-influenced NFF experiences; FFBQ): Culturally-influenced NFF experiences are negative experiences that are consistent with AA culture involving attractiveness of women that may be culturally specific and missing when researchers use an etic approach. These experiences may encourage mainstream behaviors that promote the thin ideal (FFBQTHIN subscale), but may also encourage behaviors specific to encouraging a desired "curvy" body shape which may be unique to AA culture (FFBQCURVY subscale). This will be defined via scores on the *Family Food Experiences-Black Questionnaire* (FFBQ), a measure developed based on AA women report.

Research Question

Given the timeliness and significance of research on disordered eating in AA women, this study will examine the following question:

1. Does the FFBQ (i.e. culturally-influenced NFF experiences) relate to the FERFQ (i.e. mainstream NFF experiences) among African-American women?

To date, samples predominantly comprised of Caucasian women dominate the research on negative family food experiences and disordered eating (e.g. Kluck, 2008). However, negative family food experiences are a culturally-bound construct in that a family's meal content, meal time, and treatment of food are inherently influenced by cultural values and practices. Thus, it may be that AA women experience negative family food experiences differently than Caucasian women. However, it also reasonable to suggest that the influence of the majority culture on AA

women may make it such that negative family food experiences are experienced similarly between black and white women. Thus, this study examined whether negative family food experiences shown to reflect AA culture are related to those negative family food experiences thought to traditionally reflect mainstream culture.

Research Hypotheses

This study will examine the following hypotheses:

1. The FFBQ-thin subscale (i.e. culturally-influenced NFF experiences associated with the thin-ideal) will be more strongly related to responses on the FERFQ (i.e. mainstream NFF experiences) then on the FFBQ-curvy subscale (i.e. culturally-influenced NFF experiences associated with other physical appearance ideals falling outside those of the mainstream culture, also termed the thin ideal in disordered eating literature).

Existing research suggests that black women experience some risk factors related to disordered eating, such as the thin ideal, media influences, and body dissatisfaction, differently from white women (e.g. Bardone-Cone, Weishuhn, & Boyd, 2009; Chandler, Abood, Lee, Cleveland, & Daly, 1994; Petersons, Rojhani, Steinhaus, & Larkin, 2000; Striegel-Moore, Schrieber, Pike, Wilfley, & Rodin, 1995). Thus, it is likely that aspects of culturally-influenced NFF experiences may only be minimally associated with mainstream NFF experiences. However, aspects of culturally-influenced NFF experiences that promote the thin ideal may be more strongly associated with mainstream NFF experiences.

2. Greater reports of the FERFQ (i.e. mainstream NFF experiences) and/or the FFBQ (i.e. culturally-influenced NFFs experiences) will be associated with increased disordered eating attitudes and behaviors.

Research with predominantly Caucasian women has found NFF experiences to be a significant predictor of disordered eating (Kluck, 2008; Kluck, 2010). Additionally, AA women report similar levels of familial critique regarding weight and shape as Caucasian women (Crago, Shisslak, & Estes, 1996). Thus, it is reasonable that mainstream NFF experiences will be associated with disordered eating in this population as well.

3. MEIM scores (i.e., ethnic identity) will moderate the relationship between FERFQ (i.e. mainstream NFF experiences) and/or the FFBQ (i.e. culturally-influenced NFF experiences, both those that emphasize curviness and those emphasizing thinness) and disordered eating, such that higher MEIM scores (i.e. more mature levels of ethnic identity) will decrease the strength of the relationship between FERFQ and/or the FFBQ and disordered eating.

Research regarding the role of ethnic identity as a buffer against disordered eating in AA women has been contradictory (Rogers et al., 2010). For instance, some researchers have related ethnic identity to a range of positive psychological outcomes, including serving as a protective factor for disordered eating, parentification, and other psychological effects (Hooper, Wallace, Doehler, & Dantzler, 2012; Shuttlesworth & Zotter, 2011). However, other studies have found that low levels of ethnic identity represent a risk factor for AA women, whereas high levels of ethnic identity show no effect (Shuttlesworth & Zotter, 2011). One possible reason for conflicting findings may be that matured ethnic identity acts as a buffer against effects of specific culturally-based risk factors (such as NFF experiences) as opposed to a buffer against all risk for disordered eating.

4. The FFBQ (i.e. culturally-influenced NFF experiences) will be a better predictor of disordered eating in AA women than the FERFQ (i.e. mainstream NFF experiences).

As previously described, comparison research between black and white women has found between group differences in multiple risk factors for disordered eating. However, prevalence rates of disordered eating in AA women seem to be approaching those in Caucasian samples (Mulholland & Mintz, 2001). It may be that significant risk factors are more culturally-based then have been previously assessed, such that a measure of culturally-influenced NFF experiences might be more sensitive to disordered eating in AA women than a measure used with predominantly Caucasian women.

Summary

In light of the research that has shown disordered eating affects AA women at rates comparable to Caucasian women, it is important to expand the literature in a meaningful way. One addition to the literature on disordered eating in AA women might be the examination of culturally-influenced variables that influence the development of disordered eating in AA women. One such variable, NFF experiences, has been shown to predict disordered eating in Caucasian women. Because of the way in which culture influences family relational patterns and food, NFF experiences may be an important variable to examine in AA women. Additionally, ethnic identity, which has been suggested as a protective factor against disordered eating in AA women, might influence the effect of NFF experiences on disordered eating in this population. Additionally, AA women may experience NFF experiences differently than do Caucasian women. Thus, this study sought to explore whether the NFF experiences of AA women that are both similar and different from those found relevant for the mainstream population are relevant constructs in the prediction of disordered eating with this population. Additionally, this study explored whether ethnic identity served as a protective factor against disordered eating by

moderating the effect that NFF experiences has on the development of disordered eating behaviors.

II. Literature Review

History of Eating Disorders and Current Prevalence

The ideals associated with weight, body image, and eating behaviors have undergone significant changes across time. Historically, larger bodies were associated with prosperity and worth, in that body size correlated with an individual's ability to meet the basic need of food intake (Osvold & Sodowsky, 1993). As time passed, social changes caused thinness to be equated with affluence, and the U.S. saw increased attention to the area of eating disorders as they became increasingly prevalent in women (who account for 85-95% of eating disorder cases; National Institute of Mental Health [NIMH], 2008). Eating disorders include the diagnosable disorders of anorexia-nervosa, bulimia-nervosa, and binge eating disorder that are related to abnormalities in the level of food intake and methods of purging (NIMH, 2008). Specifically, these disorders involve restricting intake, overeating, or engaging in behaviors such as vomiting, laxative use, or extreme exercise to control weight and/or body shape (studies have shown that up to 80% of some eating disorder samples increase physical activity during the disorder; Davis, Blackmore, Katzman, & Fox, 2005). Lifetime prevalence rates are estimated at 0.9% and 0.3% for anorexia-nervosa (for women and men, respectively), 1.5% and 0.5% for bulimia-nervosa, and 3.5% and 2% for binge eating disorder (Hudson, Hiripi, Pope, & Kessler, 2007).

Since the 80's, women seem to pay less attention to their weight, despite the fact that the population is generally heavier (Cash, Morrow, Hrabosky, & Perry, 2004). However, this finding did not represent relief from the problem of eating disorders, but rather a re-conceptualization of that problem. Recently, disordered eating, or irregular/unhealthy eating behaviors, as well as the related body image dissatisfaction, have become a focus of study as researchers begin to recognize that the span of dangerous eating behaviors extends beyond the diagnosable eating

disorders. Prevalence rates have been surprising; with studies showing as many as 56% of female high school students reporting disordered eating behaviors (Croll, Neumark-Sztainer, Story, & Ireland, 2002). Likewise, significant numbers of college women report some increase in disordered eating behaviors over their first year in college, with 25% reporting putting themselves on a diet (Striegel-Moore, Silberstein, Frensch, & Rodin, 1989). It would seem that the current cultural shift toward the thin ideal has influenced the increase in body image dissatisfaction and contributed to cases of disordered eating in the U.S. (Cash et al., 2004). This is disturbing, as individuals with disordered eating behavior can still experience a plethora of mental and physical health problems, including social anxiety, depression, lower connectedness with others, greater alcohol use, constipation, and lack of concentration (French, Story, Downes, Resnick, & Blum, 1995; Rosen, Tacy, & Howell, 1990). As an example, research indicates that dieting itself can cause retardation of growth and amenorrhea in adolescents (Rosen et al., 1990). Given these consequences of disordered eating, researchers have also examined the etiology of pathological eating behaviors that fall short of meeting the criteria for a diagnosable eating disorder.

Body Image Dissatisfaction and Disordered Eating Behaviors

Reports have suggested that as many as 68% of non-black women and 35% of non-black men express some body image dissatisfaction (Forrest & Stuhldreher, 2007). More strikingly, young girls have been shown to be dissatisfied with their bodies, with 40% of five to eight year-old girls and 36% of nine to ten year-old girls expressing a desire to be thinner (DeLeel, Hughes, Miller, Hipwell, & Theodore, 2009; Dohnt & Tiggemann, 2006). Studies have shown that dissatisfaction with the body predicts disordered eating symptomatology, including increased restrictive dieting, bulimic symptoms, depressive symptoms, and the tendency to over-engage in

physical activity (Davis et al., 2005; Stice & Bearman, 2001). Thus, the increase in body dissatisfaction attitudes seem to lead to an increase in disordered eating. Additionally, the increase in disordered eating may also lead to an increase in body image dissatisfaction, as research has demonstrated that knowing other women that display body image dissatisfaction is positively related to having attitudes and behaviors related to body dissatisfaction (Edwards-Hewitt & Gray, 1993; Tylka & Subich, 2004).

Given the span of the population affected by disordered eating, as well as the effects disordered eating has on other mental conditions, researchers have found it important to examine the risk factors associated with the etiology of disordered eating behaviors. Primarily, an examination of disordered eating risk factors increases understanding as to why these behaviors are so prevalent. Likewise, research in this area is often utilized to predict populations at increased risk for disordered eating and inform prevention and treatment interventions.

Risk Factors for Disordered Eating

Current models regarding the development of disordered eating suggest four common risk domains, including personal vulnerability or genetic factors, trauma, sociocultural factors, and family dynamics (American Psychological Association [APA], 2009; Striegel-Moore & Cachelin, 2001). When examined together, these variables account for more than 60% of the variance in disordered eating symptomatology (without trauma; Tylka & Subich, 2004).

Personal vulnerability. Personal vulnerability relates to a genetic predisposition to developing some disordered eating behavior. A great deal of work in this area has utilized family and twin studies to implicate genetics in disordered eating (see Becker, Keel, Anderson-Fye, & Thomas, 2004; Kaye et al., 2004). For instance, biological relatives of individuals with eating disorders have up to a 12-fold increase in risk of developing an eating disorder (Lilenfield, Kaye,

& Greeno, 1998; Strober, Freeman, & Lampert, 2000). Additionally, results from twin studies suggest that genes may account for 30% to 83% of the variance, though diagnostic reliability has been of some concern in these studies (Becker et al., 2004; Bulik, Sullivan, & Kendler, 1998). Research also suggests that there might be shared vulnerability between eating disorders and other disorders (Schmidt, 2003). For instance, there seems to be some suggestion that correlations between depression and disordered eating might in fact be due to genetic predisposition (Bradford & Petrie, 2008; Stice & Bearman, 2001). Likewise, studies have shown that women diagnosed with eating disorders show similar disturbances in serotonin activity that might contribute to anxiety response (Kaye, 1997). While research on genetic risk factors is extremely important and has a great deal of promise in regards to disordered eating, establishing research in this area has proven costly and intensive. Additionally, researchers have had difficulty replicating results related to molecular genetic studies exploring the specific genes involved in the development of disordered eating (Beck et al., 2004).

Trauma. Trauma is another risk factor for the development of disordered eating behaviors that has been explored in the literature. A variety of traumas including physical and sexual abuse, the death of a loved one, and historical grievances have all been related to the development of disordered eating behaviors (e.g. Chesler, 2005; Hund & Espelage, 2005). For instance, reports of past traumas ranging from experiencing deaths to physical or sexual abuses have been shown to be related to maladjusted eating behaviors in college students (Smyth, Heron, Wonderlich, Crosby, & Thompson, 2008). In this study, greater numbers and severity of traumas were linked with specific types of disordered eating behaviors, including restrictive eating and binging behaviors (Smyth et al., 2008). Another study looked at the children of Holocaust survivors and found that parental exposure to the Holocaust increased risk for

disordered eating and weight concerns (Chesler, 2005). This suggests that historical traumas may predict risk toward maladjusted eating behaviors.

Physical and sexual abuses have also been shown to predict disordered eating scores in both adolescent and adult females (Treur, Koperdák, Rózsa, & Füredi, 2005). For example, child sexual abuse was associated with disordered eating when mediated by general distress and alexithymia (Hund & Espelage, 2005). Likewise, a history of sexual trauma may play a crucial role in the sexual avoidance, sexual dysfunction, and eating disorder behaviors (Wiederman, 1996). Like genetic variables, trauma variables seem to play an important role in the development of disordered eating but are beyond the scope of this work. However, it is unclear to what extent, sexual/physical abuse and other traumas are risk factors in general for the development of psychopathology (e.g. anxiety, depression, substance abuse, etc.) and to what extent they are unique to disordered eating (Wilson, 2010).

Socio-cultural risk factors. An overwhelming majority of work regarding disordered eating risk factors has focused on sociocultural factors. The reasoning behind this focus is two-fold: first, there is a convincing argument for the influence of sociocultural risk factors on the pathogenesis of disordered eating (see Root, 2001; Striegel-Moore & Bulik, 2007). For example, when the Czech Republic underwent a sociocultural transition to a western-type democracy (which included introduction to western values, western-like media presentation, and the fashion and diet industries), eating disorders in females ages 10-39 quadrupled over a 20 year period (Pavlova, Uher, Dragomirecka, & Papezova, 2010). Likewise, immigration to western societies has been shown to relate to an increased risk in disordered eating as compared with counterparts from the country of origin (Barber, 1998). This type of evidence highlights the sociocultural dependent nature of disordered eating behaviors. The second reason for the emphasis on the

exploration of sociocultural risk factors is the fact that they are relatively easy to assess as compared to specific trauma instances and genetic variables, and thus more likely to be examined with minimal risk to participants. Currently, sociocultural models implicate the thin beauty ideal, social/media pressure, peer influence, and shifting gender role dynamics as risk factors for disordered eating (Piran & Cormier, 2005; Striegel-Moore & Bulik, 2007).

Thin ideal. The thin ideal is a body type some women aspire to that is generally smaller than the average sized women. The thin ideal can be dangerous in that it may suggest to normal sized women that their bodies are actually larger than the norm, which might in turn drive disordered eating attitudes and behaviors (Cash et al., 2004). While body image dissatisfaction can stem from an individual's (at times accurate) response to their weight or size, the thin ideal is more so about an individual's comparison of their body to some ideal image (Forrest & Stuhldreher, 2007). This ideal is culturally dictated and research suggests that the cultural value placed on thinness, when internalized, may ultimately lead to disordered eating behaviors (Garner & Garfinkel, 1980; Striegel-Moore, Silberstein, & Rodin, 1986). The thin ideal is perpetuated by a number of factors, the most notable of factors being media influence.

Media. The influence of media on the ways in which women see their bodies has received a great deal of attention as the implications of the sizes of models and actresses displayed in the media support the idea that women should be extremely petite. The decreasing size of women in the media overtime may suggest to women that thinness is related to attractiveness (Garner, Garfinkel, Schwartz, & Thompson, 1980 as cited by Osvold & Sodowsky, 1993) and findings have shown that girls who watched television programs with an appearance emphasis (e.g. *Friends*) were less satisfied with their bodies (Dohnt & Tiggemann, 2006). Although it is unclear whether media simply reflects social values of thinness or creates

them, it is clear that the media plays a role in the extent to which values of thinness are perpetrated. One significant field study demonstrated how the introduction of Western television in Fiji was associated with an increase in disordered eating attitudes (Becker, Burwell, & Gilman, 2002). This was particularly significant considering traditional values encouraged robust body sizes and eating disorders were believed to be nonexistent. Other researchers have found direct linkages between media exposure and disordered eating as mediated by the internalization of the thin ideal (Stice, Schupak-Neuberg, Shaw, & Stein, 1994).

Peer influence and/or teasing. The influence of peer group on the development of disordered eating has been well established in the literature. For instance, knowing friends with eating disorders is positively related to having disordered eating attitudes and behaviors (Edwards-Hewitt & Gray, 1993). Likewise, research has shown that weight loss behaviors can be predicted based on behaviors of others within a clique (Paxton, Schutz, Wertheim, & Muir, 1999). This suggests that contexts in which peers emphasize thinness contributes to disordered eating risk.

In addition, peer teasing related to body size, weight, and thinness expectancies has been shown to relate to disordered eating (Annus, Smith, Fischer, Hendricks, & Williams, 2007). Researchers suggest that this correlation might be based on the fact that critical teasing is meant to emphasize differences between a peer's actual body and some imagined ideal (Neumark-Sztainer, Falkner, & Story, 2002). Restrictive and binge eating disturbances have been shown to significantly relate to weight-related peer-teasing in adolescent girls and boys (Ricca, Nacimas, & Cellini, 2002; Thompson, Coovert, & Richards, 1995).

Gender role dynamics. Other researchers have developed a sociocultural risk model that implicates the centrality of appearance in the traditional female gender role and the importance

of that appearance for women's recently achieved economic success as primary to the adoption of the thin ideal and thus development of disordered eating (Stice & Schupak-Neuberg, 1994; Bettendorf & Fischer, 2009). For instance, women's educational success and economic power has been linked with a reduction in the size of the idealized body type for women (Barber, 1998). Likewise, disordered eating has been found to relate to attempts to maintain femininity while pursuing high scholastic and professional achievement (Steiner-Adair, 1990).

Though the thin ideal, media pressure, peer influence, and gender role dynamics have strong relations to disordered eating, these factors alone (which are widely encountered) do not account for the fact that only a minority of women actually develop disordered eating symptomatology (Polivy & Herman, 2004; Schmidt, 2003). This of course has led researchers to implicate other risk factors, including relational or family dynamic risk factors as well as other ways through which the family might influence individuals to develop different and unhealthy eating behaviors.

Family experiences and disordered eating. In particular, researchers have examined general modeling and other negative food experiences (e.g. critique about weight) and discovered those individuals who report more exposure to these types of experiences have more disordered eating behaviors. Such an approach is consistent with efforts to understand the etiology of a variety of psychological disorders and difficulties (e.g., Hughes, Hedtke, Kendall, 2008; Waller & Hartley, 1994). Despite the paucity of literature regarding the family influence on disordered eating, the research that exists suggests that family factors may be very relevant to the development of disordered eating behaviors. Interestingly, Tylka and Subich (2004) found that genetic and relational characteristics (defined in their study as family, friends, and social network) completely mediated the relationship between sociocultural factors and disordered

eating. Thus, it seems family influences may explain some of the difference between individuals with similar sociocultural influences that do and do not develop disordered eating symptomatology.

Negative family food experiences. One factor of family influence that is beginning to receive attention in the literature is family behaviors around food and eating concerns. Negative family food (NFF) experiences (e.g., Fulkerson et al., 2006; Kluck, 2008; Neumark-Sztainer, Eisenberg, Fulkerson, Story, & Larson, 2008) include negative modeling of or commentary about weight, shape, or eating behaviors (Kluck, 2008). NFF experiences typically take place inside the immediate family circle (though extended family and close friends may be included; Kluck, 2008). Despite the paucity of research into NFF experiences, these experiences seem quite promising in relation to disordered eating. For instance, NFF experiences and meal atmosphere have been associated with disordered eating even after controlling for body mass index (BMI) and socio-economic status (SES; Kluck, 2010; Neumark-Sztainer, Wall, Story, & Fulkerson, 2004; Striegel-Moore et al., 2005). It has been suggested that these links may be particularly salient in regards to binge eating disorder (i.e. meal atmosphere has been linked to higher rates of binge eating), though some researchers have failed to show this relationship (Neumark-Sztainer et al., 2004; Sierra-Baigrie, Lemos-Giraldez, & Fonseca-Pedrero, 2009).

Modeling. Family modeling has been implicated in a number of behaviors as research suggests that children adopt attitudes and behaviors from watching their parents (e.g. Campbell, Crawford, & Ball, 2006). This is also true in regards to attitudes and behaviors around food and weight control as family modeling has also been shown to play a role in the development of disordered eating behaviors (e.g. Rodgers, Faure, & Chabrol, 2009; Striegel-Moore et al., 2005). For instance, parental modeling of eating and food preparation has been shown to relate to

children's food choices (Campbell et al., 2006) and familial binge eating has been related to the risk of developing binge eating disorder (Striegel-Moore et al., 2005). In fact, quite a few studies have linked parental activity around food, exercise, and dieting to behaviors of the children, and researchers have posited that disordered eating behaviors may be a product of family learning (Annus, Smith, & Masters, 2008; Pike & Rodin, 1991).

The overwhelming majority of research regarding parental modeling and disordered eating has focused on maternal modeling. For instance, daughters of "mothers with disordered eating" tended to be more concerned with dieting and more eating disordered themselves (Pike & Rodin, 1991). This connection between dietary restriction in daughters and maternal dieting has been frequently replicated (Rodgers et al., 2009; Strong & Huon, 1998). Likewise, studies have shown that drive for thinness in daughters was predicted by the importance mothers were perceived to put on their own weight or shape (Rodgers et al., 2009). A similar relationship between daughter's body dissatisfaction and perceived maternal body dissatisfaction was also established (Rodgers et al., 2009). Additionally, maternal physical activity was related to the physical activity of their daughters, suggesting that levels of exercise may depend on specific modeling behaviors in the home (Davis et al., 2005). Thus, the importance of modeling effects (especially maternal modeling) on disordered eating behaviors has been well established in the literature.

Negative commentary. Another component of NFF experiences that has been implicated in disordered eating research is negative commentary. Negative or critical comments about weight, shape, and eating behaviors received from family members have been related to the development of both binge-eating disorder and anorexia-nervosa (Fairburn et al., 1998; Pike et al., 2008). In fact, parental criticism has been found to predict disordered eating in daughters as

young as elementary-age girls through college-aged women (Baker, Whisman, & Brownell, 2000; Vincent & McCabe, 2000). In fact, consistent negative feedback has been found to negatively affect body image in daughters, while encouragement and positive feedback has been linked to more positive body image and healthier weight loss behaviors (Gross & Nelson, 2000; Wertheim, Martin, Prior, Sanson, & Smart, 2002). Likewise, mothers with daughters with an eating disorder tended to evaluate their daughters as less attractive than mothers of daughters without an eating disorder, suggesting that these negative evaluations might be related to the development of disordered eating behavior (Hill & Franklin, 1998). In fact, a mother's disapproval related to her daughter's body and comments regarding weight and dieting were related to the dieting behavior of the daughter (Thelen & Cormier, 1995).

To date, research has shown a great deal of support for the idea that NFF experiences are risk factors for disordered eating. There are quite a few reasons why NFF experiences provide fertile ground for additional research efforts. First, this set of constructs cover a range of family experiences related to disordered eating. That is to say, NFF experiences account for aspects of modeling and also takes into account parental critique and teasing and other meal experiences, all of which appear related to risk for development of disordered eating. Perhaps one of the most important reasons to further examine NFF experiences is that NFF experiences are culturally-bound.

NFF experiences and culture. NFF experiences are inherently influenced by the culture of the individual and her (or his) family. That is to say, family values, beliefs, and attitudes around food vary based on the cultural identity of the family. As there are documented differences in regards to the development of, and risk factors for disordered eating in different cultural populations, it is plausible to suggest that examining NFF experiences may help in

identifying differences in the cultural expression of disordered eating (Striegel-Moore & Cachelin, 2001). In fact, countless researchers have called for the examination of these cultural differences in ethnic minorities, especially in African-American (AA) women (Kluck, 2008; Osvold & Sodowsky, 1993; Roberts, Cash, Feingold, & Johnson, 2006; Root, 2001; Striegel-Moore & Cachelin, 2001; Wilfley, 1996). Thus, it may be beneficial to explore NFF experiences, as they may help increase knowledge about the cultural differences in disordered eating across these ethnic minority groups.

Disordered Eating in AA Women

Although less extensively researched, disordered eating is found in the AA community. The National Survey of American Life found prevalence rates of diagnosed eating disorders of .17% for anorexia, 1.49% for bulimia, and a mean age of onset of 19.44 (Taylor, Caldwell, Baser, Faison, & Jackson, 2007). Although these prevalence rates were similar to traditionally white samples (typically .9% for anorexia, 1.5% for bulimia; Hudson et al., 2007), another sample of over 1000 black women yielded a 0% prevalence of anorexia nervosa, 1.4% binge eating disorder, and .4% for bulimia nervosa using DSM-IV criteria (Striegel-Moore et al., 2003). However, a study on disordered eating indicated that 23% of black women were considered symptomatic (comparable to studies with white samples that indicated between 19-32%; Mulholland & Mintz, 2001). In addition, even when SES is held constant, ethnicity remains a significant predictor of disordered eating development (Flynn & Fitzgibbon, 1998; Harris, 1995; Levinson, Powell, & Stellman, 1986). Thus, there has been some question in the literature as to the level to which AA women are affected by disordered eating and how this may differ from traditional samples primarily comprised of Caucasian populations. In 1986, Sibler suggested that eating disorders in ethnic minorities were simply under reported, rather than

different in some way (as cited by Osvold & Sodowsky, 1993). However, comparison research between AA and Caucasian women has suggested there are both similarities and differences to be considered in these populations.

Similarities and differences between AA and traditional Caucasian samples.

Lack of desire to meet the thin ideal. As discussed earlier, the thin ideal is an aspirational body type that is typically thinner than the average weight of women. This desire for thinness has been shown to promote body image dissatisfaction and has been directly related to the development of disordered eating behaviors (Garner & Garfinkel, 1980). Differences in endorsement of the thin ideal have been demonstrated in AA women. Specifically, although researchers agree that the thin ideal is reflected in and encouraged by media images, white women's body image seems to be associated with mainstream television, but black women's body image seems to be associated with black-oriented media (Schooler, Ward, Merriwether, & Caruthers, 2004). These findings suggest that some black women may reject white characters, and black female characters may have a protective effect on body image (Schooler et al., 2004)

Other research on the thin ideal in AA women suggests that the ideal body size preferred by AA women are typically larger than that considered ideal by white women, and tends to include larger hips, buttocks, and thighs (Parnell et al., 1996). In fact, researchers found the reported ideal body mass index (BMI) of overweight AA women to be 27.2, placing the ideal for these women in the overweight category. This larger ideal body size contrasts with previous studies of overweight white women whose ideal BMI was found to be approximately 22 (Dutton, Martin, & Brantley, 2004). Additionally, the self-ideals of AA women were found to be more similar to their actual sizes, but white women's self-ideals were smaller than their actual size

(Rucker & Cash, 1992). In fact, white women tended to choose smaller body figures when asked what they would like to look like (Arguete, DeBord, Yates, & Edman, 2005).

Black women also show less concern about weight loss and display less effort to achieve a thin body weight (Abrams, Allen, & Gray, 1992). In contrast, white women may equate thinness to attractiveness, while studies note that AA women report overly thin bodies to look sickly or drug addicted (Freedman, 1990 as cited by Flynn & Fitzgibbon, 1998). Finally, in one case, focus groups indicated that black women reject the thin ideal and see current weight guidelines as unrealistic whereas white women did not express these feelings (Thomas, Moseley, Stallings, Nichols-English, & Wagner, 2008).

Despite the research suggesting AA women do not adhere to the thin ideal, some studies have shown the opposite may be true. Though white women had more weight concern than black women, both white and black women chose similar ideal body sizes in one study, suggesting that differences in the ideal body size may not exist (Thompson & Sargent, 2000). Additionally, a meta-analytic study revealed that differences in dissatisfaction and ideal body sizes produced a small effect, suggesting that true differences in adherence to a thin ideal are not particularly salient between AA and Caucasian women (Wildes, Emery, & Simons, 2001).

Body Image. Body image is comprised of multiple parts (Cash, 1990). Though there is some debate in the literature regarding all the components of body image (e.g. behavioral, cognition, distortion, investment, etc.; for review see Banfield & McCabe, 2002), there is some agreement regarding two basic components: perceptual and attitudinal body image. Perceptual body image is defined as how individuals see their bodies (Flynn & Fitzgibbon, 1998). In other words, it is the accuracy of an individual's judgment of their size, shape, or weight in comparison to their actual proportions (Banfield & McCabe, 2002). The attitudinal or evaluative

component of body image is defined as how women think and feel about their bodies (Flynn & Fitzgibbon, 1998) and is related to body dissatisfaction variables. Attitudinal body image has also been related to the affective and cognitive components of body image by some researchers (Banfield & McCabe, 2002; Cash, 1990).

Perceptual body image. Research has linked differences in the perceptual component of body image to differences in the pursuit of the thin ideal. Numerous studies have shown differences in the way AA women perceive their body compared to traditional samples. For instance, some research suggests that AA women's perception of being overweight is more so related to actual weight concerns (Bardone-Cone, Weishuhn, & Boyd, 2009; Chandler, Abood, Lee, Cleveland, & Daly, 1994; Petersons, Rojhani, Steinhaus, & Larkin, 2000; Striegel-Moore, Schrieber, Pike, Wilfley, & Rodin, 1995). For example, 81% of black women that perceived themselves as overweight were found to meet the World Health Organizations standard of a BMI of over 25, as compared with only 40% of white women who perceived themselves as overweight meeting that standard (Bardone-Cone et al., 2009). In fact, many black women who are overweight (up to 60% as denoted by medical standards) perceived themselves as normal weight (Flynn & Fitzgibbon, 1998). What's more, no studies were found to contradict these findings (i.e. no studies were found to suggest that the perceptual body image of AA women is similar to traditional Caucasian samples).

Attitudinal body image. The attitudinal or evaluative component of body image has been related to differences in body dissatisfaction among white and black women as well. For example, research has shown that black women report significantly less body dissatisfaction then their white counterparts and more satisfaction with discrete body areas (Arguete et al., 2005; Harris, 1994; Petersons et al., 2000; Roberts et al., 2006; Wilfley et al., 1996). In addition, white

women report more negative automatic body thoughts and more negative evaluations of their bodies than AA women (Rucker & Cash, 1992; Chandler et al., 1994). In fact, studies have shown that AA women had the most positive body image as compared with a number of other ethnic populations, including Caucasians (Altabe, 1998).

However, some researchers have found similarities in the way black and white women affectively evaluate their bodies. When BMI, SES, and marital status were controlled, black and white women did not differ significantly in regards to body dissatisfaction (Caldwell, Brownell, & Wilfley, 1997). This suggests that constructs other than ethnicity may be more relevant to the differences in body dissatisfaction seen between black and white women.

Critique about weight. As mentioned earlier, critique and teasing from family and friends can be a significant predictor for the development of disordered eating. This line of research extends to black women and some research suggests that black women report more positive feedback about their looks from family and friends compared to white women (Crago, Shisslak, & Estes, 1996). Additionally, black women perceived their families as being closer and felt they were offered greater support and encouragement around weight issues than did their white counterparts (Kane & Erdman, 1998; Striegel-Moore et al., 2005).

However, of the research suggesting that black women experience factors related to disordered eating similarly to white women, the overwhelming majority regards critique from family or friends about body and weight concerns. This factor (which is an aspect of NFF experiences) seems to be common for both AA women and white women, with both groups reporting similar levels of teasing, criticism, expressions of dissatisfaction, and critique about their weight (Akan & Grilo, 1995; Wilfley et al., 1996). For example, receiving criticism about weight from maternal figures was a function of the degree to which an individual was

overweight but was unrelated to race or SES in white and black women. These findings seem contrary to the opinion that black women receive less pressure to change their bodies from their families. However, it remains to be seen whether that pressure is a pressure to meet the thin ideal, or some other body ideal.

In light of the previous research findings suggesting both similarities and differences in the way AA and Caucasian women perceive their bodies, their desire to be thin, and the course of development of disordered eating behaviors, it seems necessary to continue research that helps clarify the literature. This seems to be the reason researchers have called for the examination of the cultural experience that may influence dieting, exercise, and body image (Akan & Grilo, 1995). As stated earlier, one such cultural influence may be NFF experiences (Kluck, 2008). It seems, based on the literature, that the examination of this relevant risk factor outside of a cultural context would be misinformed. In fact, NFF experiences are influenced by and will influence the cultural expression of disordered eating behaviors. Thus, the differences in NFF experiences between black and white women, in the context of cultural or ethnic identity, is important to examine in the pursuit of identifying the pathways by which disordered eating may develop in AA women.

Ethnic Identity

Many researchers have suggested links between ethnic identity and risk factors for disordered eating (Roberts et al., 2006; Root, 2001; Striegel-Moore & Cachelin, 2001; Wilfley et al., 1996). For instance, researchers have suggested that adherence to cultural ideals might serve as a buffer against the adoption of the thin ideal in some cultural groups (Akan & Grilo, 1995; Flynn & Fitzgibbon, 1998). Others suggest that the cultural standards by which AA women judge themselves are in some way different from the thin ideal, and thus may shape the

behaviors the individual utilizes to manage their body image (Marsh & Willard, 1996; Rucker & Cash, 1992). Similarly, Roberts et al., (2006) suggested that differences in disordered eating might diminish as "white" standards of beauty are adopted. However, prior to examining the validity of these suggestions, it is important to determine how researchers view ethnic identity, particularly when studying disordered eating concerns.

Despite substantial interest in ethnic identity, the term itself is not always clearly defined. For instance, in the literature related to cultural aspects of disordered eating, the terms ethnic identity, acculturation, and assimilation are often utilized, and at times, seem to be used interchangeably. However, these terms are not identical, and it is important to differentiate them to understand the literature effectively. These terms can be thought of as different levels of cultural experience regarding how culture is adopted, changed, maintained, and viewed by a particular group (Schwartz, Unger, Zamboanga, & Szapocznik, 2010).

Assimilation is the experience of cultural adoption by one group from another (Phinney, 1990). In other words, it is the process by which a group (usually the minority) adopts cultural aspects of another group (usually the majority). It is commonly thought that in adopting characteristics of the majority group, the minority group relinquishes, or gives up, some characteristic of their group (Parham & Helms, 1981). For instance, a minority group adopting the language of the majority as primary and ceasing to use an original language might be an example of assimilation. It is important to note that assimilation is generally discussed at a group level, but has been used in the literature at times to assess individual characteristics as well.

If assimilation constitutes an adoption of values, acculturation constitutes a modification of values. Acculturation is the process by which an ethnic group experiences changes in cultural attitudes and behaviors based on interaction and experience with another distinct group of people

(Berry, 1980). For instance, a group may adapt their traditional methods of learning to the teaching provided in a new environment, but may supplement that teaching in their homes so that their children maintain a sense of traditional methods of learning. Thus acculturation represents a cultural shift but implies some maintenance of traditional cultural values. Like assimilation, acculturation is a group construct that has been frequently utilized in individual assessment.

Finally, ethnic identity is a term that encompasses aspects of assimilation and acculturation. However, unlike the previous two terms, ethnic identity is an individual term in which the concern is about how an individual relates to their own group as a subgroup of the larger society (Berry, Trimble, & Olmedo, 1986). It is the extent to which an individual identifies with distinct cultural norms of their own group within the context of another cultural group or set of groups for which the individual was not originally a part (Berry, 1980). Thus, ethnic identity is often conceptualized as a component of the social identity of an individual because the ethnicity of an individual is meaningful only to the extent that it is salient to that individual (Phinney, 1990).

Aspects of ethnic identity. While the conceptualization of ethnic identity as an index of how much one identifies with their own cultural group is generally agreed upon, other components of ethnic identity have been subject to much debate. Some suggest that the lack of process and assessment approaches to the measurement of ethnic identity may contribute to the absence of a comprehensive theory for the construct (Ong, Fuller-Rowell, & Phinney, 2010). Nevertheless, many researchers have attempted to outline the aspects that compose an individual's ethnic identity. For instance, self-identification, feelings of belonging, commitment, shared values, language, behavior, and knowledge of history have all been suggested as

components of ethnic identity (e.g., Parham & Helms, 1981; Rogler, Cooney, & Ortiz, 1980; Singh, 1977).

One model of ethnic identity that has garnered quite a bit of support in the literature is that of Phinney and Ong (2007). Their model, which synthesized many existing theories, is composed of seven factors that characterize an individual's ethnic identity. Those factors include self-categorization, commitment and attachment, exploration, behavioral involvement, in-group attitudes, ethnic values and beliefs, and salience of group membership. Simply put, Phinney and Ong (2007) suggest that an individual must first self-identify as a member of a particular ethnic group (self-categorization). Then, the individual must develop a sense of belonging and responsibility for that group (commitment and attachment) and actively seek experiences relative to their ethnicity (exploration). As the ethnic identity matures, an individual adopts and holds positive regard for ethnic behaviors, attitude values, and beliefs (behavioral involvement, in-group attitudes, and ethnic values and beliefs). Finally, the resulting identity must be important to the individual (salience of group membership). Each of these components, and the varying ways in which an individual relates to them, compose the ethnic identity of a person.

Ethnic identity development. Within the discussion of ethnic identity, it is important to highlight the way in which researchers have conceptualized the development. As emphasized earlier, being a member of a minority group is a necessary but not sufficient condition for having a matured or achieved ethnic identity; many other components have been shown to be important. Thus, researchers suggest a developmental model, based loosely on Erikson's theory, for stages of ethnic identity growth (e.g. Marcia, 1980; Umaña-Taylor, Gonzales-Backen, & Guimond, 2009). A number of studies provide evidence for the notion of ethnic identity components having a developmental trajectory, and researchers posit that the developmental pattern of this construct

may be due to the social and cognitive processes taking place during adolescence that support exploration (Umaña-Taylor et al., 2009). The developmental model, popularized by Marcia (1980), suggests that beginning in adolescence, individuals begin a process of exploration of their ethnic identities that moves through a continuum and culminates with a commitment in various life areas including religion, politics, and occupation. Given this, Marcia (1980) posited four statuses related to where an individual is on the progression of exploration and commitment. The first, the diffuse status, refers to a person who has neither explored nor committed to their ethnic identity. A foreclosed status refers to a person that has committed to an ethnic identity (the values, beliefs, etc.) without proper exploration. An individual is said to be in moratorium status when they are engaged in a process of exploration but have not yet made a commitment. Finally, a person is said to have an achieved or mature ethnic identity when they have a made a commitment to cultural values, beliefs, and attitudes after a period of thorough exploration.

Ethnic Identity, which was condensed by Phinney (1990) into the stages of exploration, resolution, and affirmation, has been shown to increase across adolescence in a number of samples (e.g. Umaña-Taylor et al., 2009). Additionally, Phinney (1990) outlined ways in which the components of ethnic identity (i.e. self-categorization, behavioral involvement, in-group attitudes, etc.) might interact with varying stages of ethnic identity (i.e. exploration, resolution, and affirmation). That is to say, high levels of one or more of the components are not necessarily indicative of an affirmed, achieved, and mature ethnic identity (Phinney, 1990). For instance, an individual may have a great deal of commitment and adopted behaviors, attitudes, and beliefs of a culture, but failed to personally engage in active exploration of their identity, and instead adopted these patterns from their parents. This level of ethnic identity (referred to as "foreclosed" by Marcia, 1980) might create an individual who relates too many of the behaviors

of a cultural group but lacks a clear understanding of their commitment. Research suggests that ethnic identity, when underdeveloped in this way, may at times make it difficult for an individual to reject negative and/or stereotypical views of their cultural group (Phinney & Ong, 2007). Additionally, the stages of ethnic identity are not necessarily followed sequentially from exploration to affirmation, and individuals can be engage in multiple stages at any given time (Marcia, 1980; Phinney, 1990). For instance, an individual may have resolved parts of their ethnic identity that relate to specific attitudes and behaviors regarding the male role in a household, but may be simultaneously engaged in exploration regarding the female role in the household.

Ethnic identity assessment. The assessment of ethnic identity has been largely based on a conceptualization of the construct through a developmental model. That is to say, the assumption has been that ethnic identity can be assessed on a continuum and older adults reflecting unachieved identity statuses may have somehow been stunted in their ethnic identity development. However, this construct has proven difficult to assess across the continuum.

There are two levels at which ethnic identity has been assessed in the literature. The first level is at the content level. This involves assessing the behaviors, practices, and attitudes toward an individual's ethnic group (Ong, Fuller-Rowell, & Phinney, 2010). The second level is an assessment of ethnic identity at the process level, or an assessment of ethnic identity formation (Ong et al., 2010). Though the content and process of ethnic identity are likely related, Ong et al. (2010) argue that a separation of these types of assessments may provide a clearer view of the ethnic identity literature.

Content assessments of ethnic identity. Traditional ethnic identity assessment has measured the content of ethnic identity specific to the cultural values, attitudes, and beliefs of the

group of interest. One example of a content measure is the Black Racial Identity Attitude Scale (RIAS; Parham & Helms, 1981). The scale taps negative, positive, and mixed attitudes that African Americans hold toward their own race as well as the majority (Phinney, 1990). The scale, which assesses attitudes related to stages of pre-encounter, encounter, immersion, and internalization, failed to show adequate reliability across a number of studies (Parham & Helms, 1981; Ponterotto & Wise, 1987). Some researchers have suggested that content assessment scales of ethnic identity may not truly assess the multidimensional, developmental aspects of the construct (Akbar, 1989). This led researchers to focus more on process-based assessments of ethnic identity.

Process assessments of ethnic identity. The most well-known process assessment of ethnic identity is the Multigroup Ethnic Identity Measure (MEIM; Phinney & Ong, 2007). This measure is meant to assess the components of ethnic identity that research suggests are essential (self-categorization, commitment and attachment, exploration, behavioral involvement, in group attitudes, ethnic values and beliefs, and salience of group membership) as well as assessing for the developmental construct of the achieved ethnic identity. This measure does not tap the content of specific ethnic values and practices, and thus can be used across varying ethnic groups. The benefit of a measure such as this is that it eliminates the bias of individuals answering questions based on what they believe specific aspects of their culture should be.

The MEIM has been the subject of a number of factor analyses which tend to suggest a two factor model: exploration and commitment, which is consistent with research on ethnic identity (Phinney & Ong, 2007). Additionally, face and content validity have been established with African American, Mexican American, Vietnamese American, and Armenian American students (Phinney & Baldelomar, 2006; Phinney & Ong, 2007). To date, it is the most widely

used measure of ethnic identity (Ong et al., 2010). It seems that the MEIM might be an appropriate measure to include in research regarding disordered eating and ethnic identity as it has shown validity in assessing the construct of ethnic identity while removing the bias associated with measures directed at specific cultural practices.

Ethnic Identity and Disordered Eating

Ethnic identity, though complex, is an important construct to include in discussions of disordered eating as it relates to how an individual may (or may not) identify with cultural values related to eating, body image, and weight concerns. As stated previously, many researchers have suggested that ethnic identity may play an important role in the development of disordered eating behaviors. In fact, evidence suggests that eating practices are culturally bound. For instance, researchers suggest that in suburban Norway, particular dinner ingredients are considered culturally evident of how "proper" a family might be (Bugge & Almås, 2006). Likewise, Pakistani participants in one study described particular South-Asian dishes as "strength-giving", and noted a cultural expectation to participate in the commensality of meal time (Lawton et al., 2008). However, there has been conflicting evidence as to what role ethnic identity specifically might play in the development of specific disordered eating behaviors. Though some researchers have shown support for a high level of ethnic identity as a buffer against the development of disordered eating, other researchers have not found such support.

Support for ethnic identity as a buffer against disordered eating. Many researchers have assessed how levels of ethnic identity relate to risk factors for disordered eating and found that AA women with high levels of ethnic identity were at less risk. For instance, the more strongly AA women identified with their ethnic group, the less likely they were to internalize the thin ideal (Rogers, Wood, & Petrie, 2010). Likewise, black women with a more mature ethnic

identity did not have increased likelihood for disordered eating, though white women with a more mature ethnic identity did (Petersons et al., 2000). Other studies have reported similar findings related to achieved or mature ethnic identities (Schooler, Ward, Merriwether, & Caruthers, 2004).

Interestingly, this issue may not rest solely on the ethnic identity of AA females as some studies suggest that AA males with matured ethnic identities prefer women with larger body sizes and report disliking low body weights (Freedman, Carter, Sbrocco, & Gray, 2004). These mate preferences, which suggest a culturally based value that does not endorse the thin ideal, may serve as a protective factor for AA women as well. This phenomenon has also been shown in other cultural groups, as ethnic identity was found to moderate the relationship between acculturation to mainstream society and restrictive eating behaviors in Mexican-American women (Bettendorf & Fischer, 2009). Some suggest that ethnic identity is a protective factor in a broader sense. For example, more matured ethnic identities are associated with higher self-esteem and more effective coping mechanisms (Umaña-Taylor et al., 2009).

In contrast, AA women with less matured ethnic identities and attitudes who tend to reject black identity and idealize white identity were found to be more likely to demonstrate dieting behaviors, fear of being fat, and endorsement of the thin ideal (Abrams et al., 1992). In fact, eating disorder risk has been shown to be higher in AA women more acculturated to white middle class values and suggests that acculturating may change the conceptualization of the ideal body type (Abrams et al., 1992; Bettendorf & Fischer, 2009; Crago, Shisslak, Estes, 1996). Researchers have implicated acculturation in the increase in prevalence rates of disordered eating among AA women and suggested that AA women's connection to mainstream society might

mediate the risk of developing body image disturbances (Bettendorf & Fischer, 2009; Taylor, Caldwell, Baser, Faison, & Jackson, 2007).

Nonsupport for ethnic identity as a buffer against disordered eating. While a great deal of research has found support for ethnic identity acting as a buffer against disordered eating in AA women, other studies have failed to validate such results. For instance, recent research has shown that although low levels of ethnic identity represent a risk factor for disordered eating, high levels of ethnic identity do not necessarily indicate a protective factor (Shuttlesworth & Zotter, 2011). Additionally, a meta-analysis showed that acculturated and nonacculturated women did not differ significantly on measures of eating pathology and other studies have failed to find significant differences in disordered eating across ethnic groups (Franko, Becker, Thomas, & Herzog, 2007; Harrington, Crowther, Payne Henrickson, & Mickelson, 2006; Wildes, Emery, & Simons, 2001). For instance, Akan & Grilo (1995) utilized the Black Racial Identity Attitudes Scale (as reported by Helms, 1990) as a means of determining whether a rejection of AA cultural identity was related to levels of disordered eating, attitudes about body image, or self-esteem. These authors found assimilation to be unrelated to these variables. Using the same scale, Dinsmore and Mallinckrodt (1996) found no connection between eating disorders and racial identity development in AA women, suggesting that women with dominant culture conforming attitudes showed no greater levels of disordered eating than women that have internalized black culture. In fact, AA women who frequently interacted with white women were not more likely to meet criteria for disordered eating behaviors than those with infrequent interaction (Striegel-Moore et al., 2005). Researchers have also failed to find relevant connections in studies on acculturation and disordered eating in other minority groups and failed to show a relationship between body dissatisfaction and ethnic identity in some studies (Baugh,

Mullis, Mullis, Hicks, & Peterson, 2010; Joiner & Kashubeck, 1996). In fact, some research suggests that the stress of acculturative processes that accompany more matured ethnic identities may put minority women at greater risk for disordered eating behaviors (Perez, Voelz, Pettit, & Joiner, 2002).

It is unclear why inconsistent findings regarding the role of ethnic identity in the development of disordered eating exist. However, some researchers suggest it may be related to the fact that ethnic identity has been too confounded in the literature and other constructs such as SES might be more related to levels of disordered eating (Caldwell, Brownell, & Wilfley, 1997). Another possible reason for conflicting findings might be that AA women experience dual messages regarding body type ideals. It is likely that AA women are influenced both by dominant cultural ideals of body type (i.e. the thin ideal) and by AA culturally-based values of body type (which may differ from the thin ideal). It may be that a construct such as ethnic identity influences to what extent these dual messages are internalized by AA women. If this is so, it seems reasonable that researchers have found differences and similarities in disordered eating between AA and Caucasian women and supports the need for research to clarify the role of ethnic identity.

Summary of the Literature and Future Directions

Thus, the literature suggests that disordered eating is an important phenomenon that affects large numbers of women in the U.S. and can relate to other mental health conditions such as depression. A number of risk factors including genetic variables, trauma, sociocultural variables, and family relational variables have been implicated in the development of these disorders. However, one risk factor that has not been fully addressed in the literature is that of negative family food (NFF) experiences, which encompasses parental modeling and critique

about weight and shape. Additionally, although it is clear that disordered eating affects AA women, it is not clear exactly what factors are most important in the study of disordered eating in AA women and whether ethnic identity may serve as a protective factor against disorder eating. However, the literature does seem to suggest that AA women and women in predominantly Caucasian samples may report similar levels of NFF experiences.

Since NFF experiences are a culturally-influenced construct that has been shown to relate to disordered eating, it is plausible to suggest that the ethnic identity of an individual (which has been shown to develop during adolescence; Umaña-Taylor et al., 2009) might influence how NFF experiences relate to the development of disordered eating in AA women. In addition, the culture of the individual's family may further influence the types of NFF experiences to which they are exposed, even if NFF experiences imply adherence to both the thin ideal and a curvier ideal. For instance, in AA women, it may be that woman with more matured ethnic identities internalize NFF experiences that relate to both a thin ideal and a curvy ideal. In contrast, AA women with less matured ethnic identities might be more likely to internalize those NFF experiences that lead to a thin ideal and thus increase the likelihood of developing disordered eating behaviors. Thus, the examination of the link between NFF experiences, ethnic identity, and disordered eating may shed light on why differences are seen between AA women and the predominantly-Caucasian samples typically used in studies of disordered eating.

III. Methods

Research has found that negative family food (NFF) experiences relate to disordered eating, however, less is known about how NFF experiences relate to disordered eating in ethnic minorities. Though prior research has shown that black women report significantly less disordered eating attitudes and behaviors, evidence suggests that this phenomenon might be changing and that the change may be related to cultural identity (Mulholland & Mintz, 2001; Rogers, Wood, & Petrie, 2010). The purpose of this study was to determine whether culturally-influenced NFF experiences might be more powerful for predicting disordered eating in this population. This study also explored whether ethnic identity differences moderated the association between NFF experiences and disordered eating in black women.

Research Question

This study examined the following question:

1. Do scores on the FFBQ (i.e. a measure of culturally-influenced NFF experiences developed with an AA sample) relate to scores on the FERFQ (i.e. a measure of mainstream NFF experiences developed with a predominantly Caucasian sample) among African-American women?

Research Hypotheses

This study examined the following hypotheses:

1. The FFBQ-thin subscale (i.e**.** culturally-influenced NFF experiences associated with the thin-ideal) will be more strongly related to responses on the FERFQ (i.e. mainstream NFF experiences) then on the FFBQ-curvy subscale (i.e. culturally-influenced NFF experiences associated with other physical appearance ideals falling outside those of the mainstream culture).

2. Higher scores on the FERFQ (i.e. mainstream NFF experiences) and/or FFBQ (i.e. culturally-influenced NFF experiences) will be associated with increases in EAT-26 scores (i.e., disordered eating attitudes and behaviors).
3. MEIM scores (i.e., ethnic identity) will moderate the relationship between FERFQ (i.e. mainstream NFF experiences) and/or FFBQ (i.e. culturally-influenced NFF experiences) scores and EAT-26 scores (i.e., disordered eating), such that higher MEIM scores (i.e. more mature levels of ethnic identity) will decrease the relationship between the FERFQ and/or FFBQ and the EAT-26 (i.e., disordered eating).
4. The FFBQ (i.e. culturally-influenced NFF experiences) will be a better predictor of EAT-26 scores (i.e. disordered eating) in AA women than the FERFQ (i.e. mainstream NFF experiences).

Design

The present study utilized a descriptive and correlational design to examine the relationship between NFF experiences (commentary and modeling about weight, shape, and eating) and disordered eating in African-American women. Specifically, the study examined relationships among different NFF experiences and evaluated whether ethnic identity moderated the relationship between NFF experiences and disordered eating among AA women.

Participants

Sampling size and statistical power. Prior research regarding NFF experiences (including modeling and negative commentary) and disordered eating has produced significant results, with medium to large effect sizes ($r^2=.125$ to $r^2=.168$, $p<.05$; see Cooley, Toray, Wang, & Valdez, 2008; Kichler & Crowther, 2001; Kluck, 2008). However, a large portion of

comparison research between black and white women on factors related to disordered eating has failed to produce significant results or found very small to large effect sizes (e.g. $r^2=.048$ to $r^2=.29$, $p<.05$; see Abrams et al., 1992; Petersons et al., 2000; Rogers-Wood et al., 2010). Given the range of results from prior work, it seemed most appropriate to conduct a modest a priori power analysis to determine the sample size needed to obtain adequate power (set at .80). Given the expectation of a small effect ($r^2=.048$, $p<.05$), the power analysis indicated that a minimum of 242 participants were needed to detect the effect. Thus, participant recruitment continued until a minimum of 242 and maximum of 300 participants completed the study.

Inclusion/exclusion criteria. In that this study focused on disordered eating in black women, participants were limited to women that self-identify as African-American or black via a check list option. Women identifying as ethnically "Other" were excluded from study participation. Participants were solicited from any U.S. state. However, women were required to have spent a minimum of 75% of their life years in the United States (e.g. an 18 year old will be required to have lived in the U.S. for a minimum of 13 years). This exclusion criterion served to limit the potential bias of non-U.S. cultural influences into the study.

Participant ages were limited to between 18 and 25 (or the age of majority in the state of residence). Research indicates that the majority of women who have an eating disorder at some point in their life experience the onset of the disorder before the age of 25 (Cash, Morrow, Hrabosky, & Perry, 2004). Thus, it was appropriate to limit the sample to women to those under age 25. Additionally, this limited age range reduced the potential of bias related to generational and/or age differences. Due to legal requirements necessary for consent, only those individuals age 18 or older (minimal age of majority in any state) were eligible to participate.

Sampling method. It was important that participants in this study were solicited from a breadth of locals to increase the likelihood of a sample comprised of individuals with differing levels of ethnic identity. To accomplish this goal, sampling procedures took place via three different methods.

For the first sampling method, study participants were solicited from southeastern university chapters of the four National Pan-Hellenic Council (historically African-American) sororities. These sororities include Alpha Kappa Alpha Sorority, Inc., Delta Sigma Theta Sorority, Inc., Sigma Gamma Rho Sorority, Inc., and Zeta Phi Beta Sorority, Inc. The justification for using sorority members is two-fold: first, these sororities bring together large numbers of African-American women, and second, studies have shown that sororities both attract women at risk for disordered eating and that sorority membership increases the likelihood that a woman will maintain a preoccupation with dieting (Allison & Park, 2004; Basow, Foran, & Bookwala, 2007). It is reasonable to believe that the use of this population provided a sample of women that includes women who do and women do not struggle with disordered eating.

The second sampling method included soliciting members of African-American or Black organizations (e.g. Black Student Union) at both predominantly white institutions and historically black institutions of higher education. Not only do these organizations bring together large numbers of AA women, but there is also potential for these organizations to possess individuals with a range of ethnic identity levels, from the very beginning of the exploration stage to individuals with a fully achieved ethnic identity.

There is some question whether participation in groups oriented toward the African-American or Black population might increase ethnic identity level or whether individuals that choose to participate in these groups possess more achieved ethnic identities at the outset. To

address this concern, a third sampling technique employed a snowball sampling method on social networking sites. Snowball sampling allowed participants that choose not to participate in organizations geared to AA populations to be included in the sample.

Sample characteristics. Approximately 1200 potential participants were solicited via the sampling methods selected. From those solicitations, 277 (23%) participants completed the study survey. Twenty-six participants were excluded from the sample due to violations in age, ethnicity, or gender, leaving a total of 251 participant responses that were included in the final analyses.

A summary of demographic data is shown in Table 1. Of the sample used in the final analyses, 92.8% identified as African-American, 4.8% identified as biracial (including African-American and at least on other ethnicity), and 2.4% identified as Black-International. Participant data identified as Black-International was analyzed to determine whether the exclusion criterion of living in the United States for a minimum of 75% of life was met. Calculations were based on the participant's demographic report of current age and number of years living in the U.S. A total of 6 participants identified as Black-International, with a mean age of 23.16 (SD = 1.94) and a mean lifetime percentage living in the US of 87% (SD = .067; range 80% to 95.5%). No Black-International participants were excluded from the study.

Sample participants reported a mean age of 22.66 (*SD* = 1.86) and a mean Body mass Index (BMI) of 27.56 (*SD* = 7.07). While average BMI for this sample is higher than typically found in the general college population, studies with African-American women have reported average BMIs as high as 26.9, suggesting that this finding is appropriate for this sample (Adderley-Kelly, 2007; Bozeman et al., 2012). A large majority of the sample (83.7%) did not report a previous history of psychological disorders. However, 16.3% of the sample reported

some history of depression, anxiety, substance abuse, eating disorder, or sexual disorders. Of this percentage, only 2.4% of participants specifically reported an eating disorder-related diagnosis.

Procedures

Due to the multiple sampling methods used to increase the variability in the sample, this research study also utilized multiple data collection procedures. The study materials (i.e. four measures and a demographics questionnaire) were available in paper format as well as via an online option. This ensured the researcher the ability to cater collection procedures to the sampling method.

When sampling via the first two methods (i.e. sorority membership or AA student organizations), participants were recruited via contact with the president of the university chapter. Chapter presidents were provided the option for study participation to take place at chapter meetings or via a distribution of the online survey method. For organization chapters choosing to participate via the paper-based survey, the researcher attended the meeting to distribute the study. In cases in which attendance at chapter meetings was prohibited or not preferred, the study was distributed electronically to participants via the chapter president. Snowball sampling participants were contacted on Facebook and sent a solicitation for participation in the electronic version of the study. Participants were also asked to send the invitation for participation to other individuals that may be interested.

In both sampling approaches, participants received (either in the front of their paper packet or as the first screen prior to proceeding to the remainder of the study online) an information letter (Appendix A), detailing information necessary for participants to provide informed consent. Participants then completed the demographic questionnaire followed by the remaining four measures, which appeared in a random order.

Ethical issues

To increase confidentiality and limit risk to participants, all research data was collected anonymously. For individuals participating in this research electronically, the survey link directed participants to an anonymous web browser that did not record any information regarding the individuals email, web location, etc. Additionally, no identifiable information was collected on the survey and electronic data from this research is only reported in the aggregate. For individuals participating in the paper-based form, research data was kept in a locked file cabinet until it was entered in aggregate form into the electronic database, at which time paper documentation was shredded. The web server where data was stored is powered by qualtrics.com, which is a secure server that requires a dual login for access. Only the principal investigator had login access to the data.

There was limited risk to participants in this research. However, some participants, particularly those struggling with eating issues, might have experienced discomfort in answering the questions. To manage this risk, the researcher provided each participant the following website equipped with information and resources available for individuals with eating concerns: http://www.apa.org/helpcenter/eating.aspx .

Measures

Demographics questionnaire. The Demographics Questionnaire (see Appendix B) were created for use in this study. This demographic measure was used to obtain relevant background information such as gender, ethnicity, age, class year, history of disordered eating, history of Axis I disorders, and family characteristics and history.

Disordered eating symptomatology. The *Eating Attitudes Test-26* (EAT-26; Garner & Garfinkel 1979 as cited by Tylka & Subich, 2004), was used to assess disordered eating.

Previous studies support the utility of this instrument in assessing high dieting and bulimic behaviors in nonclinical samples of women (Tylka & Subich, 2004; "Using", 2006). Additionally, this screening instrument was used in the 1998 National Eating Disorders Screening Program and is among the most widely used eating disorder screening measures (Tylka & Subich, 2004). The EAT-26 is a 26-item instrument that requires participants to respond to questions regarding their attitudes and behaviors using a likert-type scale with the following options: always, usually, often, sometimes, rarely, and never (e.g. "I am terrified about being overweight.", or "I have gone on eating binges where I feel I am not able to stop."). For the first 25 questions, the instrument is scored 3 points for an always response, 2 points for a usually response, 1 point for an often response, and 0 points for the remaining three responses. The last question on the instrument is reverse scored via the same premise (i.e. 3 points for a never response, etc.). The EAT-26 items form three subscales (i.e. Dieting, Bulimia and Food Preoccupation, Oral Control) and subscale scores are computed by summing all items assigned to that particular scale. Higher Eat-26 scores indicate greater level of concern about dieting, body weight or problematic eating behaviors. Scores of 20 or greater have been identified as the clinical cutoff, meaning that a full clinical interview to evaluate the potential presence of a diagnosable eating disorder is recommended (Garner & Garfinkel 1980). Estimates of internal consistency in college women for the EAT-26 have ranged from .91 to .94 (Tylka & Subich, 2004). Additionally, convergent validity has been established with the Eating Disorder Inventory (Brookings & Wilson, 1994 as cited by Tylka & Subich, 2004).

Negative family food related experiences. As stated previously, NFF experiences include negative commentary about weight, shape, or eating behaviors (Kluck, 2008). These experiences can take place during interactions with parents, siblings, and extended family.

However, this study focused only on NFF experiences that occur within the mother-daughter relationship. The reasons for this narrowed scope are rooted in the fact that the majority of research with NFF experiences and other disordered eating modeling (typically conducted in predominantly Caucasian samples) has focused on maternal influence (for a summary see Root, 2001; Pike & Rodin, 1991). Since NFF experiences have not been explored with AA populations, it was reasonable to examine the family influences that have been most commonly researched with other populations. Broadening the scope of this research to paternal, sibling, or extended family influences may make it difficult to compare this initial research with AA women to literature that exists with other populations. What's more, some research suggests maternal influences contribute to disordered eating to a greater extent than do paternal influences (Gross & Nelson, 2000). In fact, girls reported perceiving their mothers as placing greater importance on their weight and shape than other family members (Gross & Nelson, 2000). Thus, one might be most likely to find a relationship between NFF experiences and disordered eating in AA women, and place the relationship in the context of extant literature, if maternal influences are the initial focus.

Family Experiences Related to Food Questionnaire (FERFQ). To assess mainstream NFF experiences, the *Family Experiences Related to Food Questionnaire* (FERFQ; see Appendix C) was used. The FERFQ is a measure that has been previously developed to assess family experiences regarding eating that are expected to relate to the development of eating disorders. The FERFQ was developed on a predominantly Caucasian sample of women using exploratory and confirmatory factor analysis to determine the item content (Kluck, 2008). This instrument assesses parental modeling behaviors and commentary about weight and shape via a 17-item questionnaire (9 items focus on mothers, 8 focus on fathers) on a 5-point likert scale in

which higher scores indicated more negative experiences. Construct validity for this measure was established via exploratory and confirmatory factor analytic studies which revealed two subscales: Negative Commentary (e.g., teasing, criticism) and Modeling (e.g., parent engaging in dieting, over-concern about weight or shape; Kluck, 2008). Internal consistencies for these subscales have been established and range from .71 to .84 (Kluck, 2008). For the purposes of this study, only the maternal version of the FERFQ was utilized.

Family Food Experiences-Black Questionnaire (FFBQ). To assess culturally-influenced NFF experiences, the *Family Food Experiences-Black Questionnaire* (FFBQ; Appendix D) was developed and piloted for this study. The FFBQ is an instrument that assesses family commentary about weight, shape, and modeling behaviors via a 22-item questionnaire (11 for mothers, 11 for fathers) on a 5-point likert scale in which higher scores indicated more negative experiences. The FFBQ is composed of two subscales: The Thin Ideal, which represents experiences more in line with mainstream NFF experiences, and The Curvy Ideal Factor, which represents experiences that may be more culturally-specific to AA women. Internal consistencies in the pilot study were found to be .67 for the full scale FFBQ, .72 for The Thin Ideal subscale, and .68 for The Curvy Ideal subscale. Though the alpha coefficient for The Curvy Ideal subscale is low given the general standards for acceptable reliability (.70), scale development researchers that focus on racial and ethnic identity constructs have cautioned against utilizing low alpha coefficients as a means to eliminate and/or modify measures tapping racial or ethnic constructs (Helms, 2007). In fact, best practices in scale construction for racial and ethnic constructs discourage the common practice of reducing scales to measures of unidimensional constructs (Helms, 2007). Instead, Helms (2007) asserted that measures of these constructs should be matched to theoretical understanding until a number of studies can be gathered to ensure that

measures of reliability are not sample specific and the construct is fully understood. Because previous research has not addressed the potential for a Curvy Ideal and little is known regarding the potential heterogeneity of this construct, it seems important that this scale is utilized in this study to provide further exploration of the possibility of a Curvy Ideal within the population of AA women. Using this same reasoning, it also seems most appropriate to examine the FFBQ subscales separately as opposed to single full scale measure. As with the FERFQ, for the purposes of this study, only the maternal version of the FFBQ was utilized. Scale development of the FFBQ is outlined in Appendix E.

Ethnic Identity. The *Multigroup Ethnic Identity Measure* (MEIM) is a 12-item scale meant to assess the components of ethnic identity that research suggests are essential (self-categorization, commitment and attachment, exploration, behavioral involvement, in group attitudes, ethnic values and beliefs, and salience of group membership; Phinney & Ong, 2007). The MEIM has been the subject of a number of factor analyses which tend to indicate two subscales: Exploration and Commitment. Participants begin by identifying the ethnic group to which they belong by answering an open ended question (i.e. In terms of ethnic group, I consider myself to be:). Participants then answer questions using a 5-point likert rating system (e.g. I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.; Phinney & Ong, 2007). Scoring for the MEIM is derived by taking the mean of the items on each subscale and/or the mean of the entire scale (for a global measure of ethnic identity). In this study, the response indicating greatest agreement with items of ethnic identity development received a score of 1 and the response indicating greatest disagreement with items of ethnic identity received a score of 5. Lower mean scores indicated a more achieved ethnic identity status.

Face and content validity have been established with African American, Mexican American, Vietnamese American, and Armenian American students (Phinney & Baldelomar, 2006; Phinney & Ong, 2007). Studies have also confirmed strong internal consistency reliability for the MEIM subscales in large samples, ranging from .72 to .89 for total and subscale measures (Phinney & Ong, 2007). To date, it is the most widely used measure of ethnic identity (Ong et al., 2010).

Analyses

Tests of relationship between mainstream and culturally-influenced NFF experiences. Correlations between measures of mainstream NFF experiences (FERFQ) and culturally-influenced NFF experiences (FFBQ) were conducted to determine the relationship between these variables in AA women. Inspection of correlations for the relationships between the factors of culturally-influenced NFF experiences (i.e. Thin Ideal and Curvy Ideal subscales) and mainstream NFF experiences was used to identify which aspect(s) of culturally-influenced NFF experiences might relate to mainstream NFF experiences in AA women.

Tests of the relationship between NFF experiences, disordered eating, and ethnic identity. In order to examine whether NFF experiences predicted disordered eating, a hierarchical multiple regression analysis was used. Both mainstream and culturally-influenced NFF experiences (i.e. FERFQ, The Thin Ideal, and Curvy Ideal of the FFBQ) were entered into the regression analysis as potential predictor variables of disordered eating scores (EAT-26). This allowed for an examination of whether NFF experiences predicted disordered eating in AA women. Then, ethnic identity (MEIM) was added to the regression equation. Finally, the interactions of the three NFF experience variables with ethnic identity were entered into the regression equation (i.e. the interaction of mainstream NFF experiences and ethnic identity, the

Thin Ideal subscale of the FFBQ and ethnic identity, and the Curvy Ideal subscale of the FFBQ and ethnic identity). Examination of whether the addition of the interaction term significantly enhanced the amount of variance in disordered eating explained by the prediction model allowed this researcher to examine the moderation effects of ethnic identity on the relationship between NFF experiences and disordered eating (Ho, 2006).

To evaluate whether one type of NFF experience (i.e., culturally-influenced Thin Ideal subscale, culturally-influenced Curvy Ideal subscale, or mainstream NFF experiences) was a better predictor than the others, a set of z-tests on the beta weights for each NFF experience predicting disordered eating was conducted. Because beta weights are standardized regression coefficients across all measures, it allowed this researcher to statistically determine whether culturally-influenced NFF experiences predicted disordered eating better than mainstream NFF experiences (Ho, 2006).

Summary

Negative family food (NFF) experiences had not been adequately examined as a potential risk factor for disordered eating in African-American women. Additionally, researchers (Arguete et al., 2005; Harris, 1994; Petersons et al., 2000; Roberts et al., 2006; Schooler et al., 2004) and a pilot study (see Appendix E) indicated that AA women may have NFF experiences that overlap and that differ from those previously reported in research based predominantly on Caucasian women. Using a correlational design, this study addressed significant gaps in the existing literature. These gaps include the assessment of NFF experiences (both mainstream and culturally-influenced) in AA women as they relate to disordered eating behaviors. Additionally, this study added to the literature that indicates ethnic identity may serve as a buffer against risk factors (such as NFF experiences) for disordered eating in this population.

Table 1

Participant Demographic Data

Demographic Category	
Ethnicity	
African-American	92.8%
Biracial (AA + Another)	4.8%
Black – International	2.4%
Mean Years in U.S.	20.16
Mean Lifetime Percentage in U.S.	87% (range 80% to 95.5%)
History of Psychiatric Diagnosis	
No Diagnosis	83.7%
Some Diagnosis (Non-ED related)	16.3%
ED related Diagnosis	2.4%
Mean Age	22.66
Mean BMI	27.56

Note: AA = African-American, ED = Eating Disorder, BMI= Body Mass Index

IV. **Results**

Overview

This chapter describes and summarizes the statistical analyses and procedures used to evaluate the hypotheses of the present study. Results for study hypotheses are described following a summary of data screening for the sample.

Tests of Response Method, Recruitment Method, and Order Effects

A series of one-way Analyses of Variance (ANOVAs) were used to test whether paper and web-based participants differed on any variable (Ho, 2006). Survey response methods included either paper versions of the survey or online versions of the survey. Response method effects were tested using one-way Analyses of Variance (ANOVAs) for each variable. There were no significant effects found for participants that took the paper version of the survey versus the online version of the survey (F (1, 251) = .780, p = .754).

Likewise, ANOVAs for each study variable were used to assess test for differences as a function of the sampling method (e.g. sorority vs. snowball participant). Participants were recruited via three different methods: through correspondence from sorority or organization leadership (n = 66), through an email from family or friend (n = 71), or through a social networking site (n = 114). Only the Multigroup Ethnic Identity Measure (MEIM) showed evidence of a recruitment method effect (F(1,251) = 16.125, p = .000). Subsequent LSD post hoc analyses showed that individuals that were recruited through sorority/organization leadership had significantly lower MEIM scores (which indicates higher levels of ethnic identity) than individuals recruited via an email from family/friend (p = .000) and those recruited via social networking sites (p = .014). This difference was expected at the outset of the study as individuals that actively participate in historically black organizations were expected to have higher ethnic

identities. Thus, additional recruitment methods (family/friend & social networks) were utilized to ensure an appropriate range of ethnic identity was represented in the sample.

Order effects were tested using a one-way ANOVA for each variable as there were a total of 24 order variations administered. Only the FFBQ showed evidence of an order effect ($F = 1.927$, $p = .008$). An LSD post hoc analysis revealed that only three orders were significantly different than all other orders on this subscale [(FERFQ, EAT, MEIM, FFBQ; $p = .030$); (FFBQ, MEIM, EAT, FERFQ; $p = .030$); (FERFQ, FFBQ, MEIM, EAT; $p = .040$)]. These orders represented 25 participant cases in the data. As there was no obvious pattern for these order effects, statistical analyses for all study cases (n = 251) were compared with statistical analyses with order effect cases removed (n = 226). There was no real difference between the results of these two analyses, suggesting these order effects might be due to chance and do not affect the results of this study.

Tests of Research Question & Hypotheses

Tests of relationship between mainstream (FERFQ) and culturally-influenced NFF experiences (FFBQ). Subsequent to scoring each measure as previously described, means and standard deviations for each of the measured variables were computed (Table 2). Correlations between measures of mainstream NFF experiences (FERFQ), and culturally-influenced NFF experiences (FFBQTHIN subscale and FFBQCURVY subscale), as well as disorder eating (EAT 26) and ethnic identity (MEIM) were computed (Table 3). The research question inquired whether culturally-influenced NFF experiences related to mainstream NFF experiences traditionally assessed with Caucasian women. Additionally, the first hypothesis proposed that culturally-influenced NFF experiences related to the thin ideal would be more strongly related to mainstream NFF experiences than culturally-influenced NFF experiences related to the curvy

ideal. Results showed that as scores on a measure of culturally-influenced NFF experiences that reflect the thin ideal increased (FFBQTHIN subscale), scores on a measure of mainstream NFF experiences increased as well (FERFQ; $r = .776$, $p<.001$). Though the correlation was not as strong, a similar relationship was found between the curvy ideal (FFBQCURVY subscale) and mainstream NFF experiences (FERFQ; $r = .570$, $p<.001$).

Next, it was hypothesized that as instances of negative family food experiences (both mainstream and culturally-influenced) increased, disordered eating behaviors would increase as well. As expected, disordered eating scores were higher among individuals who had higher scores on measures of mainstream NFF experiences as traditionally assessed by the FERFQ ($r = .316$, $p < .001$), as well as higher scores on measusures culturally-influenced experiences related to the thin ideal (FFBQTHIN; $r = .297$, $p < .001$) and curvy ideal (FFBQCURVY $r = .272$, $p < .001$). In other words, the more reported NFF experiences of any kind, the more self-reported disordered eating symptoms. Ethnic identity scores increased (MEIM; $r = .191$, $p < .001$) as self-reported disordered eating increased. In other words, the more respondents identified with their ethnicity (lower scores indicate more achieved levels of ethnic identity), the fewer disordered eating symptoms they reported. There were no significant relationships found between ethnic identity and NFF experiences (mainstream or culturally-influenced).

The effect of ethnic identity on the relationship between NFF experiences and disordered eating. The third hypothesis proposed that ethnic identity would moderate the effect of NFF experiences on disordered eating. A hierarchical regression analysis was conducted to determine if NFF experiences would predict disordered eating as measured by the EAT-26 (Table 4). BMI was entered in the first step of the model, thus removing the variance accounted for by BMI. In predicting EAT-26 scores, BMI did not explain a significant amount of the

variance (R^2 = .005, F(1,249) = 1.29, *ns*). After entering BMI in the model, mainstream and culturally-influenced NFF experiences were entered into the model (i.e. FERFQ, FFBQ Thin Ideal subscale, and FFBQ Curvy Ideal subscale). The addition of NFF experiences in the model significantly increased the variance accounted for in EAT-26 scores ($R^2\Delta$ = .123; p = .000). That is, the different types (i.e., mainstream, culturally-influenced) of NFF experiences explained 12.3% of the variance in disordered eating after accounting for BMI, which may itself be influenced by various family factors (e.g., genetics). Next, ethnic identity was added to the regression equation. This addition also significantly increased the variance accounted for in EAT-26 scores ($R^2\Delta$ = .032; p = .003). In other words, ethnic identity uniquely predicted disordered eating after controlling for the combined effects of NFF experiences across mainstream and culturally-influenced types, explaining an addition 3% of the variance in disordered eating.

Tests of moderation. To determine whether ethnic identity moderated the effects of NFF experiences on disordered eating, the interactions of the three NFF experience variables with ethnic identity were entered into the regression equation (Table 4). First, the interaction between the FERFQ (mainstream NFF experiences) and the MEIM (ethnic identity) were entered because this would allow the mainstream NFF experiences to be controlled for when examining the interaction of the culturally-influenced NFF experiences. The increase in variance accounted for in the prediction model by this interaction was significant ($R^2\Delta$ = .028; p = .004), suggesting that the MEIM has a moderating effect on the relationship between the FERFQ and the EAT-26. Second, the interaction of the FFBQTHIN subscale (culturally-influenced experiences related to the thin ideal) and the MEIM was entered. The added variance accounted for in the model by this interaction was not significant ($R^2\Delta$ = .005; p = .200). Finally, the interaction of the

FFBQCURVY subscale (culturally-influenced experiences related to a curvy ideal) and the MEIM were entered. The added variance in EAT-26 scores accounted for by this interaction was also not significant ($R^2\Delta = .011$; $p = .071$).

Because the variance explained in the regression model by the interaction of the FERFQ and MEIM was significant, the equation was plotted to determine the direction of this moderated effect (Figure 1). When MEIM scores were low (i.e. high ethnic identity), increases in FERFQ scores did not cause significant increases in EAT-26 scores. However, when MEIM scores were high (i.e. low ethnic identity), increases in FERFQ scores were associated with significantly higher EAT-26 scores, suggesting that high ethnic identity may serve as a protective factor from the effects of mainstream NFF experiences.

Test of Best Predictor Variable. The final hypothesis proposed that culturally-influenced NFF experiences would be better predictors of disordered eating in AA women than a mainstream NFF experienced. To evaluate whether the FERFQ (mainstream NFF experiences) was a weaker predictor than either the FFBQTHIN subscale (culturally-influenced experiences related to the thin ideal) or FFBQCURVY subscale (culturally-influenced experiences related to a curvy ideal) in predicting EAT-26 scores, the beta weights were tested using Hotellings T for correlations from the same sample (which is a z-test on the beta weights). There was not a significant difference in the predictive power of the FERFQ and the FFBQTHIN ($t = .413$, $p = .608$). There was also not a significant difference in the predictive power of the FERFQ and FFBQCURVY ($t = .803$, $p = .423$). This suggests that the FFBQTHIN and FFBQCURVY predict EAT-26 scores as well as the FERFQ.

Table 2

Means and Standard Deviations of Negative Family Food Experience Constructs, Disordered Eating, and Ethnic Identity

Predictor	M	SD
FERFQ	19.58	5.46
FFBQTHIN	9.61	4.23
FFBQCURVY	13.92	3.91
EAT-26	9.41	6.22
MEIM	1.70	.49

Note: FERFQ = Family Experiences Related to Food Questionnaire, FFBQTHIN = Family Food Experiences Black Questionnaire: Thin Ideal Subscale, FFBQCURVY = Family Food Experiences Black Questionnaire: Curvy Ideal Subscale, EAT-26 = Eating Attitudes Test-26, MEIM = Multigroup Ethnic Identity Measure.

Table 3

Matrix of Intercorrelations of Negative Family Food Experience Constructs, Disordered Eating, and Ethnic Identity

	FERFQ	FFBQTHIN	FFBQCURVY	EAT-26
FFBQTHIN	.706**			
FFBQCURVY	.570**	.633**		
EAT-26	.316**	.297**	.272**	
MEIM	.058	.064	-.037	.316**

Note: FERFQ = Family Experiences Related to Food Questionnaire, FFBQTHIN = Family Food Experiences Black Questionnaire: Thin Ideal Subscale, FFBQCURVY = Family Food Experiences Black Questionnaire: Curvy Ideal Subscale, EAT-26 = Eating Attitudes Test-26, MEIM = Multigroup Ethnic Identity Measure.

**$p < .001$

Table 4

Hierarchical Regression Analysis of Negative Family Food Experience Constructs, Disordered Eating, and Ethnic Identity

Predictor	R Square Change	β
Step 1		
BMI	.005	.136
Step 2		
FERFQ	.139	.385**
Step 3		
FFBQTHIN	.008	.141
Step 4		
FFBQCURVY	.007	.108
Step 5		
MEIM	.032	.154*
Step 6		
FERFQ X MEIM	.028	.154*
Step 7		
FFBQTHIN X MEIM	.005	-.011
Step 8		
FFBQCURVY X MEIM	.011	.268

Note: BMI = Body Mass Index, FERFQ = Family Experiences Related to Food Questionnaire, FFBQTHIN = Family Food Experiences Black Questionnaire: Thin Ideal Subscale, FFBQCURVY = Family Food Experiences Black Questionnaire: Curvy Ideal Subscale, EAT-26 = Eating Attitudes Test-26, MEIM = Multigroup Ethnic Identity Measure.

**$p < .001$

*$p < .05$

Figure

Figure 1. Moderation of Ethnic Identity on Negative Family Food Experiences and Disordered Eating.

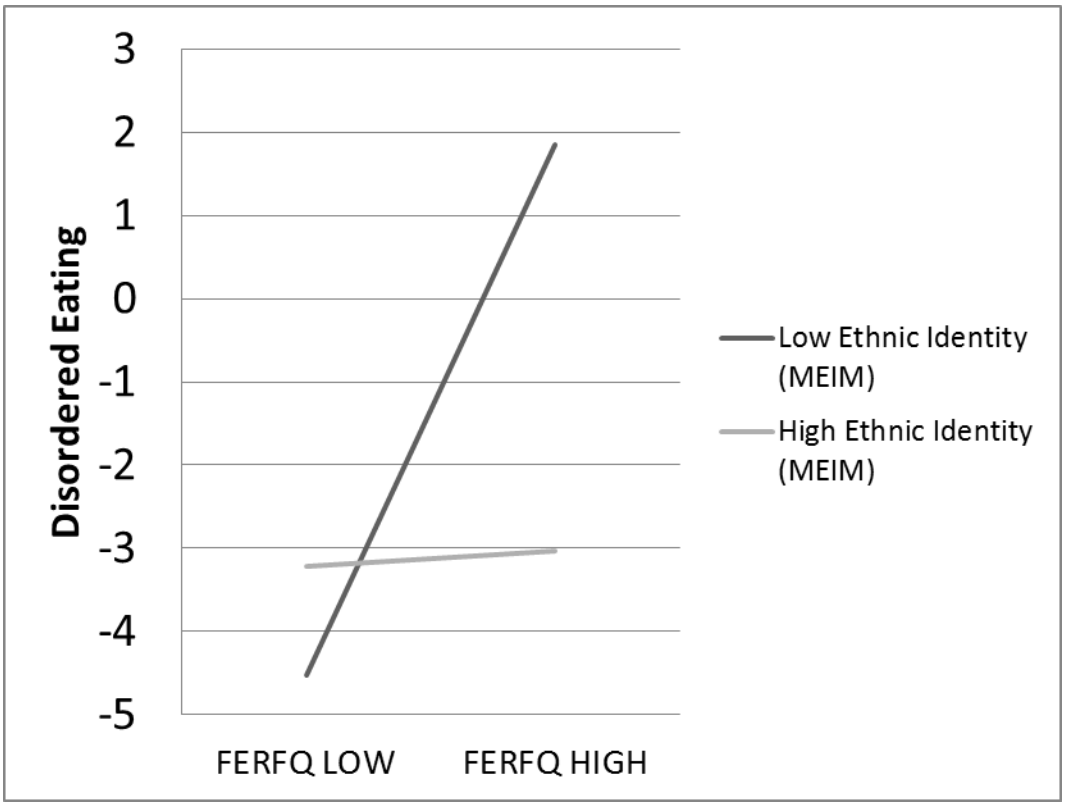

Figure 1. Interaction between mainstream NFF experiences (FERFQ) and Ethnic Identity (MEIM) on Disordered Eating after controlling for BMI. Higher levels of ethnic identity diminished the effect of mainstream NFF experiences on disordered eating.

V. Discussion

This chapter discusses the implications of the findings described in Chapter 4. It also addresses the limitations of this study and suggests areas for future research.

The purpose of this study was to determine the extent to which mainstream and culturally-influenced negative family food (NFF) experiences are related to disordered eating for African-American (AA) women. Also, this study sought to establish whether culturally-influenced NFF experiences might be more appropriate for predicting disordered eating in this population. Finally, this study explored whether ethnic identity moderated the association between various types of NFF experiences and disordered eating in AA women.

Summary of Findings

Culturally-influenced NFF experiences are highly related to Mainstream NFF experiences. An initial question for this research centered around whether mainstream NFF experiences traditionally assessed with Caucasian populations would be related to the culturally-influenced NFF experiences (both thin ideal and curvy ideal) found in African-American women. It was expected that while the mainstream NFF experiences might be related to culturally-influenced NFF experiences that promoted the thin ideal, mainstream NFF experiences would not be closely related to the culturally-influenced NFF experiences that promoted the curvy ideal. However, this study suggests that there is a strong relationship between the mainstream NFF experiences and the more culturally-influenced NFF experiences (both culturally-influenced thin ideal and curvy ideal).

As stated before, the relationship between mainstream NFF experiences and culturally-influenced NFF experiences promoting the thin ideal was expected. It may be that experiences that promote the thin ideal (e.g. commenting on weight, shape, or size to encourage thinness) are

not necessarily culturally-specific and instead share the commonality of the focus on thinness for individuals living in the U.S., who have shared experiences related to exposure to the thin ideal. However, the relationship between mainstream NFF experiences and culturally-influenced NFF experiences that promote the curvy ideal was less expected. Although it is unclear what this finding may mean, one possibility is that African-American women who experience culturally-influenced NFF experiences promoting the curvy ideal also have NFF experiences that promote the thin ideal. This creates a question of whether the curvy ideal exists independent of the thin ideal, or whether AA women might experience the curvy ideal only in relationship to their experiences with mainstream culture's promotion of the thin ideal. In other words, it may be that appearance focused mothers of AA women provide negative family food experiences that reflect both ideals. However, the "curvy ideal" is a relatively novel concept in the literature (an EBSCOhost search of the term "curvy ideal" resulted in only 2 articles). As such, it is difficult at this time to fully discuss the possible implications of the existence of the curvy ideal, and its relationship with the thin ideal in the development of disordered eating in AA women.

Disordered eating related to various NFF experiences and ethnic identity. This study also explored relationships between disordered eating and mainstream NFF experiences, culturally-influenced NFF experiences, and ethnic identity. As expected, disordered eating scores were moderately correlated with the various forms of NFF experiences. This suggests that prior NFF experiences that promoted either the thin ideal or curvy ideal were related to the development of disordered eating in AA women in this study. This finding extends previous findings regarding mainstream NFF experiences with Caucasian women to AA populations (see Kluck, 2008).

There was a direct relationship between disordered eating and ethnic identity, suggesting that as higher levels of disordered eating were reported, participants also reported lower levels of ethnic identity. Although the relationship between disordered eating and ethnic identity was relatively small, this finding was interesting and unexpected. It is unclear why a direct relationship exists, and neither causation nor direction can be established from this study. However, a preliminary suggestion might be that AA women with low levels of ethnic identity may feel less connected to their cultural group and thus report higher levels of disordered eating. This suggestion has been postulated in previous research. For instance, research has suggested that AA women with low levels of ethnic identity may reject black identity and idealize white identity, and thus become more accustomed to the body ideal values associated with the white middle class (Abrams et al., 1992; Bettendorf & Fischer, 2009; Crago, Shisslak, Estes, 1996). More extensive research will need to be done to explore this relationship. Longitudinal studies will be necessary to sort out the extent to which low ethnic identity exists prior to an increase in disordered eating behavior.

Disordered Eating in AA women explained by NFF experiences. As stated in chapter 4, a hierarchical regression was used to the relationship between culturally-influenced NFF experiences and disordered eating. Results indicated that the various NFF experiences (mainstream and culturally-influenced) that occurred within the context of the mother-daughter relationship accounted for 12.3% of the variance in disordered eating, suggesting that a significant portion of disordered eating can be explained by experiences women had with their mothers around food in the home. This finding is significant in that it suggests NFF experiences might be a viable assessment strategy during screening efforts to identify AA women at risk for development of disordered eating and those who may already have symptoms. Although NFF

experiences have not been previously studied with AA women, this finding indicates that this is a relevant direction for the literature.

Ethnic Identity moderated the relationship between disordered eating and mainstream NFF experiences. Ethnic identity moderated the relationship between mainstream NFF experiences and disordered eating. Although the various NFF experiences (mainstream and culturally-influenced) were examined for moderation, after controlling for variance accounted for by the interaction between ethnic identity and mainstream NFF experiences, the interactions between culturally-influenced NFF experiences and ethnic identity did not account for a significant amount of variance in disordered eating. When ethnic identity was high, higher mainstream NFF experiences did not relate to a significant increase in disordered eating. However, when ethnic identity was low, higher mainstream NFF experiences related to significantly higher disordered eating scores (Figure 1). In other words, ethnic identity may serve as a protector against negative family experiences around food that would normally significantly relate to the development of disordered eating behaviors. This finding is relatively consistent with the literature on ethnic identity as a protective factor for disordered eating (Shuttlesworth & Zotter, 2011; Talleyrand, 2012). However, this finding is novel in that ethnic identity is shown in this study to protect against experiences happening directly in the homes of AA women that might normally be associated with the development of disordered eating.

Predictive ability of mainstream and culturally-influenced NFF experiences for disordered eating. Although culturally-influenced NFF experiences did not significantly predict additional variance in disordered eating after controlling for the variance in disordered eating accounted for by mainstream NFF experiences, it was important to assess whether mainstream NFF experiences were truly a better predictor of disordered eating in AA women than the

culturally-influenced NFF experiences. This study suggested that the mainstream NFF experiences were no better (or worse) at predicting disordered eating than the culturally-influenced NFF experiences (thin ideal and the curvy ideal). This finding has several implications. First, it is possible that the measure developed to assess mainstream NFF experiences may be appropriate for use with an AA population. Although further exploration is warranted to better assess this possibility, this study shows some support for cross-cultural use of the mainstream NFF experience measure. Second, it may be that the unique utility of culturally-influenced NFF experiences exists outside the confines of constructs traditionally classified as disordered eating. For example, traditional measures of disordered eating are designed to measure features of eating disorders (e.g., anorexia, bulimia) as they are defined by mainstream culture. It may be that there are other "unhealthy," though not necessarily psychopathological, eating patterns that are best predicted by the culturally-influenced NFF experiences. For instance, in the experience of this author, some young AA females may believe that having large buttocks is viewed as particularly desirable by AA males. Messages that these females receive might include things such as, consumption of large amounts of starch-based foods can help women achieve an "attractive round butt." Although consumption of large amounts of starch-based foods might not fit within the typical presentation of anorexia or bulimia, adopting eating behaviors for the purpose of changing appearance is quite similar to the use of dieting, and represents non-intuitive eating. If AA women are the recipients of these types of comments, these messages may not be adequately captured by measures of disordered eating as they fall outside the spectrum of behaviors traditionally considered to constitute symptoms of diagnosable eating disorders. As such, measures more accurately tapping the construct of "unhealthy eating patterns" in AA women may be necessary to truly assess the utility of culturally-influenced NFF experiences.

Limitations

Several limitations to the present study warrant acknowledgement. First, the sample in this study was limited to college-aged AA women. Although this limitation was purposeful in the research design, study findings cannot be generalized beyond this population and thus leaves questions regarding whether NFF experiences are relevant in the study of disordered eating for AA women of different ages and women of different ethnicities.

Secondly, the measures used to assess mainstream and culturally-influenced NFF experiences in this study are in the early stages of research and as such do not have established norms or standardization practices. This leaves the potential for a less stringent collection of data to assess NFF experiences. Additionally, one of the subscales (FFBQCURVY) had lower than expected alpha levels (.68,). However, cultural researchers suggest that low alphas do not necessarily warrant the elimination of items in newly measured racial or ethnic constructs (Helms, 2007). Additionally, the measures used are among the only measures available to assess these variables. Thus, this research will add to existing research supporting the use of these measures with additional populations.

Thirdly, as stated in chapter 4, the average BMI in this sample was quite high (27.56; overweight range), suggesting that these study results may not be generalizable across weight ranges. However, studies have established that ethnic minority women tend to measure in higher BMI ranges, and that higher BMI's may culturally be considered within a healthy weight range for AA women (Grilo, Lozano, & Masheb, 2005; Lofton et al., 2007). Given these studies, it is plausible to suggest that perhaps this study is representative of AA women within a healthy weight range

Finally, while the research design and use of regression models was an effective method to determine the effect and relationship of variables on one another, it does not allow for the explanation of causation. Thus, it is unclear from this study whether NFF experiences cause disordered eating behaviors, or if increased disordered eating behaviors cause higher levels of real or perceived NFF experiences. Likewise, this study design makes it impossible to ascertain whether higher levels of ethnic identity change how NFF experiences affect an individual, or if the specific NFF experiences individuals have alter their levels of ethnic identity. In other words, results of this study do not enable us to determine whether greater levels of disordered eating cause AA women to experience a reduction in connection with their cultural group versus the extent to which AA women with low connection to their culture go on to develop disordered eating.

Implications for future research

The present study explored the relationship between NFF experiences and disordered eating, as well as the potential effect of ethnic identity on that relationship. There is a wealth of relevant future research areas extending from this study. First, this study established the contribution of various NFF experiences (mainstream and culturally-influenced thin and curvy ideals) to disordered eating in AA women. However, these constructs were explored together, and it was established that none of the constructs predicted disordered eating better than any other NFF experience construct. Thus, it seems relevant that the unique contribution of the culturally-influenced NFF experiences be explored with AA women. This may involve examination of other types of non-intuitive eating that are not captured by commonly used measures of disordered eating.

Secondly, this study did not establish potential differences of the effects of culturally-influenced NFF experiences that relate to the thin ideal versus those that relate to the curvy ideal. It might be relevant to explore the contribution of culturally-influenced NFF experiences in the development of specific disordered eating behaviors, including binge eating and purging behaviors. Anecdotally, it might seem that NFF experiences promoting the curvy ideal might more strongly predict binging or purging behaviors than NFF experiences promoting the thin ideal, however, further research to establish this is warranted.

Finally, the study results support the existence of NFF experiences promoting the curvy ideal and indicate that this curvy ideal may play a role in the development of disordered eating. As this is an area that has not yet been addressed in the literature, future research is necessary to further explore this curvy ideal. Research might establish whether the curvy ideal exists independently of the thin ideal and whether it is seen in Caucasian women or other ethnic minorities in addition to AA women. Another potential area for exploration is the effect of ethnic identity on culturally-influenced NFF experiences related to the curvy ideal. Although ethnic identity was protective against mainstream NFF experiences in the development of disordered eating, the opposite effect may exist when culturally-influenced NFF experiences related to the curvy ideal are explored for moderation. This potential warrants further independent study of culturally-influenced NFF experiences.

Conclusions

The results of the present study add to the literature on disordered eating in AA women. Specifically, this research indicated that NFF experiences are a relevant risk factor for disordered eating in AA women. Additionally, culturally-influenced NFF experiences were closely related to mainstream NFF experiences. This suggests that measures of mainstream NFF experiences

utilized with Caucasian samples may be appropriate for use with AA women. Of particular interest is the finding that AA women's culturally-influenced NFF experiences promoting a curvy ideal seem to be related to mainstream NFF experiences that traditionally promote the thin ideal in Caucasian women. This is a novel finding, and may suggest that future researchers need to better explore experiences related to the curvy ideal and disordered eating in AA women. The results of the present study also provide empirical support indicating that ethnic identity serves as a protective factor against NFF experiences in the home. This result adds to well-established literature suggesting that ethnic identity serves as a psychological buffer in a variety of disorders (Talleyrand, 2012). This finding has a number of research and clinical implications, including potential for early intervention around ethnic identity development. In all, this study provides a spring board for future research opportunities into the clinical prevention of disordered eating with regard to NFF experiences and ethnic identity.

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Appendix A

Information Letter

Principal Investigator: Evelyn Cage
Chair: Annette Kluck, PhD.
Auburn University Department: Special Education, Rehabilitation, Counseling/School Psychology (SERC)

Study Contact: Evelyn Cage
Study Contact telephone number: 404.643.2745
Study Contact email: evelyncage@auburn.edu

You are invited to participate in a research study that explores the family food experiences that typically occur in the home environments of African-American women. The purpose of this study is to gain understanding of these food-related experiences, and how these experiences may relate to the experiences of women in the mainstream culture. You have been chosen as a potential participant for this study because you identify as an African-American women, age 19 - 25 (or the age of majority in your state), that currently matriculates at a college or university.

If you choose to participate in this study, you will be asked to respond to a questionnaire regarding your home experiences with food and other family or cultural experiences. The questionnaire will take approximately 15 minutes to complete. Your survey responses will be strictly confidential and data from this research will be reported only in the aggregate. Your information will be coded and will remain confidential and thus you will not be identified in any report or publication of this study or its results.

Your participation in this study is completely voluntary. You may decide to discontinue participation at any point by simply closing your web browser.

Please print a copy of this consent form for your records. If you have questions, or concerns, please contact Evelyn Cage at the email or number listed at the top of this form.

The Auburn University Institutional Review Board has approved this document from September 14, 2011 to September 13, 2012. Protocol # 11-269 EX 1109. If you have questions about your rights as a research participant, you may contact the Institutional Review Board by phone (334)-844-5966 or e-mail at hsubjec@auburn.edu.

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Participant's Agreement:
I have read the information provided above and I voluntarily agree to participate in this research study as shown by my continuation of this survey.

Appendix B

Demographics Questionnaire

1. Sex
    a. Male
    b. Female

2. Please select the ethnicity you feel best describes your background:
    a. African American
    b. Asian American
    c. Caucasian
    d. Hispanic/Hispanic American/Chicano/a/Latino/a
    e. Native American
    f. Biracial/Multiracial
    g. International
    h. Other (specify)_____

3. Sexual Orientation
    a. Heterosexual
    b. Bisexual
    c. Homosexual

4. Age :_____

5. How many years have you lived in the United States : _____

6. In what form are you completing this survey:
    a. Web-Based
    b. Paper/Pencil
    c. Other (specify)_____

7. How did you find out about this survey:
    a. Correspondence from your Sorority leadership (e.g. president, vice, etc.)
    b. University Organization
    c. Email from family/friend
    d. Social networking site
    e. Other (specify)_____

8. Please select the ethnicity that describes your biological mother:

a. African American
b. Asian American
c. Caucasian
d. Hispanic/Hispanic American/Chicano/a/Latino/a
e. Native American
f. Biracial/Multiracial
g. International
h. Other (specify)_____

9. Please select the ethnicity that describes your biological father:
    a. African American
    b. Asian American
    c. Caucasian
    d. Hispanic/Hispanic American/Chicano/a/Latino/a
    e. Native American
    f. Biracial/Multiracial
    g. International
    h. Other (specify)_____

10. Please select the region in which you currently live.
    a. Northeast United States
    b. Southeast United States
    c. Southwest United States
    d. Midwest United States
    e. Mountain Region United States
    f. Other (specify)_____

11. Please select your current living arrangements:
    a. With Parents
    b. On-Campus Alone
    c. On-Campus with Roommates
    d. Off-Campus Alone
    e. Off-Campus with Roommates

12. If you do not live with your parents, what age did you last live with your parents? _____

13. Specify your Class Year
    a. Freshman
    b. Sophomore
    c. Junior
    d. Senior
    e. Nontraditional (please specify)_____

14. Marital Status
    a. Single – no partner
    b. Single – dating partner
    c. Married
    d. Divorced
    e. Widowed

15. Parents' Current Marital Status
    a. Biological Parents Married
    b. Biological Parents Divorced, None Remarried
    c. Biological Parents Divorced, Both Remarried
    d. Biological Parents Divorced, Mother Remarried, Father Not Remarried
    e. Biological Parents Divorced, Mother Not Remarried, Father Remarried

16. Please specify with whom you lived with the majority of your childhood:
    a. Biological Mother and Father
    b. Biological Mother Only
    c. Biological Father Only
    d. Biological Mother, Step-Father
    e. Biological Father, Step-Mother
    f. Extended Family (please specify)_____
    g. Adopted (please specify) _____

17. Height _____ ft _____ inches

18. Weight _____ lbs

19. Have you ever been diagnosed with any of the following (circle all that apply):
    a. Depression
    b. Anxiety
    c. Drug Abuse
    d. Alcoholism
    e. Eating Disorder
    f. Sexual Disorder

20. If so, did you receive treatment?
    a. Yes (please specify treatment method) _____
    b. No

21. Has either of your parents been diagnosed with any of the following (circle all that apply):

a. Depression – Mother
b. Depression - Father
c. Anxiety – Mother
d. Anxiety - Father
e. Drug Abuse – Mother
f. Drug Abuse - Father
g. Alcoholism – Mother
h. Alcoholism - Father
i. Eating Disorder – Mother
j. Eating Disorder - Father
k. Sexual Disorder – Mother
l. Sexual Disorder – Father

22. Below is a list of characteristics of women. Please check the one characteristic on each line that you deem most attractive in women.
    a. _____ light skin _____ dark skin
    b. _____ curvy body frame _____ thin body frame
    c. _____ dark-colored eyes _____ light-colored eyes
    d. _____ large breast _____ moderate breasts _____ small breasts
    e. _____ short hair _____ medium-length hair _____ long hair
    f. _____ straight hair _____ curly hair _____ natural hair

23. Please check the one characteristic on each line that you think your mother might deem most attractive in women.
    a. _____ light skin _____ dark skin
    b. _____ curvy body frame _____ thin body frame
    c. _____ dark-colored eyes _____ light-colored eyes
    d. _____ large breast _____ moderate breasts _____ small breasts
    e. _____ short hair _____ medium-length hair _____ long hair
    f. _____ straight hair _____ curly hair _____ natural hair

24. Please check the one characteristic on each line that you think your father might deem most attractive in women.
    a. _____ light skin _____ dark skin
    b. _____ curvy body frame _____ thin body frame
    c. _____ dark-colored eyes _____ light-colored eyes
    d. _____ large breast _____ moderate breasts _____ small breasts
    e. _____ short hair _____ medium-length hair _____ long hair
    f. _____ straight hair _____ curly hair _____ natural hair

Appendix C

Family Experiences Related to Food Questionnaire (FERFQ)

Please think about the person who fit the role of mother while you were growing up. How often did this person:

1. Criticized your weight/size?

   Never Rarely Sometimes Often All the time

2. Praised you for your weight/size?

   Never Rarely Sometimes Often All the time

3. Teased you about your weight/size?

   Never Rarely Sometimes Often All the time

4. Expressed concern about your health due to your weight/size?

   Never Rarely Sometimes Often All the time

5. Encouraged you to control your weight/size through dieting, exercise, or other weight control behaviors?

   Never Rarely Sometimes Often All the time

6. Told you what to eat?

   Never Rarely Sometimes Often All the time

7. Expressed dissatisfaction about her/his weight/size?

   Never Rarely Sometimes Often All the time

8. Used exercise to control her/his weight/size?

   Never Rarely Sometimes Often All the time

9. Ate large amounts of food until she described herself as “stuffed?”

   Never Rarely Sometimes Often All the time

10. Was on a diet to lose weight?

    Never Rarely Sometimes Often All the time

11. How important is it to your mother that she be as thin as possible?

Not at all important	Mildly important	Important	Moderately important	Very important

12. How important is your mother's physical appearance (shape, weight, and clothing) to her?

Not at all important	Mildly important	Important	Moderately important	Very important

Appendix D

Family Food Experiences – Black Questionnaire (FFBQ)

Please think about the person who fit the role of mother while you were growing up. How often did this person:

1. Encourage you to eat more food once you had stopped eating on your own? [C]

   Never Rarely Sometimes Often All the time

2. Eat large amounts of food until she described herself as "stuffed?" [C]

   Never Rarely Sometimes Often All the time

3. Use exercise to control her/weight/size? [C]

   Never Rarely Sometimes Often All the time

4. Encourage you to control your weight/size through dieting? [T]

   Never Rarely Sometimes Often All the time

5. Criticize your weight, size, or shape? [T]

   Never Rarely Sometimes Often All the time

6. Say or imply it was unacceptable to be too skinny? [C]

   Never Rarely Sometimes Often All the time

7. Say or imply it was unacceptable to be too fat? [T]

   Never Rarely Sometimes Often All the time

8. Express dissatisfaction about being too small in weight? [CT]

   Never Rarely Sometimes Often All the time

9. Discuss the female body type most attractive to African-American males? [C]

   Never Rarely Sometimes Often All the time

10. Positively compare your weight/size to that of your friends or relatives? [C]

Never Rarely Sometimes Often All the time

11. Negatively compare your weight/size to that of your friends or relatives? [T]

Never Rarely Sometimes Often All the time

Subscript Code

[C]: Item loaded on Curvy Ideal factor during Exploratory Analysis

[T]: Item loaded on Thin Ideal factor during Exploratory Analysis

[CT]: Item loaded on both Curvy Ideal and Thin Ideal factor during Exploratory Analysis

Appendix E

Scale Development of the *Family Food Experience-Black Questionnaire*

Development of the FFBQ was a three step process. The first step of this pilot process was an exploration of the family food experiences of AA women. An interview protocol was developed on the basis of a review of the literature of disordered eating / eating disorders, familial experience, and African-American racial and ethnic identity models. With this protocol, four 90 minute focus groups were held with AA women with a mean age of 20.82 (range = 19 to 23; *SD* = 1.02). During the focus groups, women were interviewed regarding five basic areas: family mealtime, parental eating behaviors, massages about food, messages about appearance, and perceived cultural differences between white and black women. Focus groups were subjected to a thorough thematic analysis rooted in the methodology of Grounded theory which required two thorough reviews of participant responses. This analysis produced six conceptual themes regarded as important for assessing the family food experiences of African-American women (Meal Preparation Practices; Parental Direction on Eating Speed, Frequency, or Quantity; Parental Direction on Dieting and/or Physical Activity/ Exercise; Parental Dieting and/or Exercise; Criticism/Comparison of Body, Dress, and/or Hair; Implication to pursue a Body Type other than the Thin Ideal).

The second step of the pilot study to develop the FFBQ was a focus on the content validity of the measure. Utilizing the six conceptual themes identified in the previous step, 24 items were developed for the FFBQ. These 24 items were submitted to ten subject matter experts (SMEs) who provided data to compute the content validity ratio (CVR). SMEs were chosen based on a distinct research-based knowledge of and/or clinical experience with disordered eating populations (six experts), a distinct research-based knowledge of and/or clinical experience with African-American populations (one expert), or a distinct research-based

knowledge of and/or clinical experience with disordered eating in African-American populations (three experts). The SMEs were composed of psychologists, African-American studies professors, master's level therapists, and nurses across academic and clinical arenas.

A content validity ratio (CVR) analysis based on Lawshe's (1975) model was conducted. The basis of a CVR is the idea that individuals with a great deal of knowledge in a particular domain (or SMEs) can judge the content of a measure and adequately assess each item's utility in measuring the domain in question. The greater the agreement among SMEs that the item is useful, the more likely the content of the item is valid (Lawshe, 1975). Not only does the CVR method provide a quantitative measure of the agreement among SMEs, but it also allows SMEs to provide input on item format, wording, and exclusions from the measure. When ten SME experts rate an item, as is true in this case, an item should receive a minimum CVR of .62 to ensure SME agreement of essentiality is unlikely due to chance (Lawshe, 1975). CVR's across the 24 items ranged from -.60 to 1.0 (mean=.32; SD=.53). 14 items failed to meet the .62 criterion and were dropped from the measure. Of the ten items that met the required CVR, all received a ratio of .80 or higher (mean=.86; SD=.09) suggesting strong agreement among SMEs regarding these ten items.

The third step in FFBQ development was to pilot the items rated essential to test how the items may factor to predict disordered eating in a subclinical population of African-American women. One item (Does your mother compare your weight/size to that of your friends or relatives?) was split into a positive and negative version (based on recommendations from SMEs) so that a total of 11 items that met the CVR agreement required were piloted as the FFBQ measure (see Appendix D). A total of 92 participants completed the 11-question measure, the *Eating Attitudes Test-26* (EAT-26; Garner & Garfinkel 1980), and the *Body Image Dysfunction*

Questionnaire (BIDQ; Cash, Phillips, Santos, & Hrabosky, 2004). Due to a number of participants not identifying as AA or omitting items, 66 participants (mean age of 21.91; range = 19 to 28; SD = 2.17) were utilized in the final analysis. No participant reported a past diagnosis of an eating disorder, and participants Body Mass Indices fell within 17.43 to 43.85 (M = 25.19; SD = 5.32) suggesting they ranged from being underweight to obese (Centers for Disease Control and Prevention, 2011). Exploratory factor analysis identified two distinct factors: a *Traditional Thin Ideal* factor and a *Curvy Ideal* factor. The first factor consisted of items congruent with encouragement to achieve the thin ideal (e.g. encouragement to control weight, negative criticism/comparison of weight, implying it's unacceptable to be fat, etc.). In contrast, the second factor consisted of items more congruent with encouragement to achieve a more curvaceous figure (e.g. encouragement to eat more, not exercising, implying it's unacceptable to be skinny, etc.). These factors were assessed in relation to the EAT-26 and the BIDQ. The *Traditional Thin Ideal* factor was correlated with the total *EAT*-26 scores (.404) as well as the Dieting and Oral Control subscales (.355 and .402, respectively). This factor did not correlate with the BIDQ. In contrast, the *Curvy Ideal* factor correlated only with the EAT-26 Oral Control subscale (.271), and correlated with BIDQ scores (.396) in the sample of AA women.

The results of these analyses seem to indicate that African-American women experience familial influences related to food in ways that are both different than Caucasian women (i.e. experiences tapped by the *Curvy Ideal* factor) and similar in some respects (i.e. experiences tapped by the *Traditional Thin Ideal* factor) . This provides some support for the use of the FFBQ in this study as aspects of disordered eating (e.g. Oral Control) may be more sensitive to the cultural differences in familial influences than other measures traditionally used with Caucasian populations.

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