ABSTRACT

BURWELL, CRYSTAL. Disordered Eating Patterns in African American Women: The Role of Ethnic Identity and Diet. (Under the direction of Stanley Baker.)

The primary purpose of this study was to better understand disordered eating in African American women by examining the role of diet and ethnic identity. A multivariate regression analysis was used to determine these relationships. A sample of 142 African American women was obtained from churches in the Southeastern region of North Carolina. The following surveys were outcome measures: Binge Eating Scale (BES), Multiphasic Ethnic Identity Measure (MEIM), Disordered Eating Attitude Scale (DEAS), Block Food Frequency Fat Screener Scale, and the Culture Specific Food Frequency Questionnaire (CSFFQ).

This study was uniquely focused on culture specific diet and food preparation styles that have been overlooked in the literature. Additionally, the study was focused on all forms of disordered eating, with a primary focus on binge eating. The findings indicated a statistically significant relationship between culture specific food and ethnic identity to binge eating ($p = .021$). Culture specific diet ($p = .046$) proved to be a stronger predictor of binge eating than ethnic identity ($p =0.06$). Although statistically significant, the model only accounted for 4.6% of the overall variance. No statistically significant relationship was found between ethnic identity and restrictive or compensatory eating behaviors.

High fat food items and culture specific food items were identified in terms of frequency of consumption. Participants reported eating a high level of high fat foods and a moderate level of cultural specific foods. No statistically significant model for food preparation was determined, however, chicken that was prepared fried was statistically
related to disordered eating \( (p = .005) \). Particular foods such as fried chicken \( (p = .005) \) and pork barbecue \( (p = .0002) \) were statistically related to disordered eating. Demographics such as education, occupation, weight, and marital status were discussed regarding their influence on diet, ethnic identity, and disordered eating.

This study served as a foundation for a comprehensive clinical model of binge eating among African American women. The findings provided insight on disordered eating from clinical, cultural, and historical perspectives. Implications for practitioners and future research ideas are discussed.
Disordered Eating Patterns in African American Women: The Role of Ethnic Identity and Diet

by
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DEDICATION

I would like to dedicate this pursuit to myself, my parents, and my dogs, Dexter, Bullet, and CoCo.
BIOGRAPHY

I am currently a Licensed Professional Counselor in North Carolina. I am a recipient of the 2013-2014 NBCC Minority Fellows Scholarship, which allowed me to finish my dissertation work. Additionally, I own a mental health private practice specializing in eating disorders, mood disorders, substance abuse, and women’s issues. I received a Bachelor’s of Science in psychology from Gardner-Webb University and a Master’s of Arts in counselor education from North Carolina Central University. I have experience working with a diverse array of clients, however specializing in eating disorders with a treatment approach of Dialectical Behavior Therapy. I hope to continue providing therapy and conducting research to add value to the lives of those I serve.
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CHAPTER I

Introduction

Eating disorders such as anorexia, bulimia, and binge eating disorder are major health concerns among women due to the significant mental and physical health problems they incur (Polivy & Herman, 2002). Eating disorders are convoluted and often difficult to understand and treat. Eating disorders occur when there is a disturbance of eating habits or weight control behavior, which results in a clinically significant impairment of health and psychological functioning (Fairburn & Harrison, 2003).

In the United States alone, approximately 20 million women and 10 million men will suffer from a clinically significant eating disorder at some time in their lives (Wade, Keski-Rahkonen, & Hudson, 2011). These estimates may be conservative considering the secrecy surrounding the disorder, causing many people to avoid treatment. In addition, many individuals struggle with body dissatisfaction and sub-clinical disordered eating attitudes and behaviors, referred to as disordered eating (Stice, 2002). Whether eating patterns are disordered or meet full criteria for an eating disorder, the presenting concerns can cause significant distress in one’s life.

Recently, the role of culture has been explored in the eating disorder world. Eating disorders have been labeled culture bound disorders, as they are rare in non-western cultures (Hoskins, 2002). Therefore, understanding the cultural context is imperative to understanding the manifestation of the eating disorder. Taylor (1985) believes that without understanding
the context that women form their definitions of worth and identity, we ignore the complexity of the problem around eating disorders.

Culture can be so impactful that it shifts social norms and expectations. Becker (1999) described the effects of culture in her research with Fiji women. Her study introduced Western images of beauty into the Fijian culture. Prior to this exposure of Western culture, eating disorders were rare and body satisfaction was high among women. However, after exposure to Western body ideals, the need for dieting and monitoring eating habits became more prevalent.

Western culture is clearly impactful among those exposed to body image ideals. American culture is unique in that there are many subcultural groups who contend with identification as a minority within the majority culture. Eating disorders were once thought to be a disorder only effecting young White women of privilege, however eating disorders are becoming more widespread among minority groups (Wade, Keski-Rahkonen, & Hudson, 2011). Research has uncovered increasing rates of disordered eating patterns in women of color (Arriaza & Mann, 2001; Shaw, Ramirez, Trost, Randall, & Stice, 2004).

Among all types of eating disorders, African American women are disproportionately affected by binge eating disorder (Fairburn & Harrison, 2003). Binge eating rates among African American women range from 8% to 34%, while prevalence rates of the disorder range from 2% to 5% in the United States (Striegel-Moore & Cachelin, 2001). Researchers have acknowledged the need to identify psychosocial risk factors contributing to eating disturbance in minority populations (Striegel-Moore & Cachelin, 1999). Particularly among
African American women, disordered eating and body manipulation may manifest as a way to gain control in a sociocultural context whereby they are granted minimal social power (Watson, Robinson, Dispenza & Nazari, 2012).

**Statement of the Problem**

There is a gap in the literature regarding a clear understanding of disordered eating patterns among African American women. Among the samples of African American women, previous research has included comparative samples of a college aged women, limiting our understanding of disordered eating across the lifespan. Also, much of the research has focused on prevalence of anorexia and bulimia despite higher rates of binge eating in African American women.

Additionally, the emotional implications of the African American diet has been virtually ignored. The traditional African American diet has oppressive roots in slave history that have manifested in the modern day soul food cuisine. Due to the food content and preparation styles, soul food may contribute to malnutrition, health disparities, and mental health problems. Diet as a specific sociocultural construct distinct to African American women has been unexplored in the eating disorder literature. The relationship between disordered eating and dietary intake may present culture specific concerns for African American women.

Although research focused on African American women with disordered eating has increased, the literature remains plagued with conceptual and methodological challenges and inconsistencies (Smolak & Striegel Moore, 2001). Furthermore, assessment tools do not
always incorporate necessary socialization experiences of African American women (Talleyrand, 2006). Additionally, binge eating disorder has arguably received the least amount of attention in the literature, however it presents as a widespread problem in African American communities (Striegel-Moore, Wilfley, Pike, Dohm, & Fairburn, 2000). Binge eating is a serious disorder associated with a host of adverse consequences, including comorbid psychological problems and obesity (Crowther & Harrington, 2006).

Furthermore, eating has been identified as a coping mechanism for women of color (Shuttlesworth & Zotter, 2011). Research findings support food as a coping mechanism due to the culture specific challenges they face as African American women. Harrington, Crowther, and Shiperd (2010) state that binge eating serves as a maladaptive attempt at regulating and managing negative affect. Specifically, binge eating is proven to function as self-soothing, emotional numbing, or escaping aversive self-awareness (Gershuny & Thayer, 1999). Although self-soothing and numbing momentarily, binge eating over time can contribute to significant physical and emotional problems.

Finally, ethnic identity is a significant predictor for disordered eating in African American women. The role of ethnic identity, as either a protective factor or a contributing factor to disordered eating has been ambiguous in previous studies. Research findings support strong ethnic identity as a predictor for lower rates of anorexia and bulimia (Shuttlesworth & Zotter, 2011), however the relationship of ethnic identity to binge eating in a diverse sample of African American women has not been determined.
**Significance of the Study**

This study is unique in several ways. The goal of the study was to explore subclinical disordered eating attitudes and behaviors among African American women. The role of ethnic identity, diet, as well as demographic factors will be analyzed. First, this study was one of few studies to examine a wider demographic of African American women in relation to disordered eating behaviors. Important demographics such as age, income level, education level, and parental status were examined in their relationship to eating patterns. Surveying a wider demographic in age will help draw conclusions regarding how eating patterns may change over time and after childbirth.

Additionally, this study strictly focused on African American women. Much of the literature includes comparison studies between African American and European American women. While these studies are helpful and provide a starting point for research, frequent criticism in comparison studies is that the ethnic majority (i.e., European Americans) may be thought of as the normative group. Wood and Petrie (2010) state when conducting comparison studies researchers often make the implicit assumption that European Americans are the normative group. Comparative between-group research often runs the risk of developing claims from a difference or deficit perspective, whereby African Americans may be pathologized if their responses vary significantly from the European American comparison group.

Next, in this study participants were asked to provide information on their weight and height. Many descriptive studies in the literature do not ask participants to self-report weight
and height, however and cite this omission in their limitations sections. While this addition to
the study may appear intrusive, it offers valuable information. This information can be used
as an objective reference point to compare participants’ endorsement of eating behaviors
directed at weight loss versus weight gain. It also provides a reference point to determine
potential inconsistency between perceptions of healthy eating versus manifestation of a
healthy lifestyle.

Furthermore, including weight and height information allows the researcher to
calculate body mass index (BMI) of participants to assess obesity, a common risk factor for
binge eating disorder. BMI also offers telling information regarding next steps in future
research to potentially give back to the community regarding intervention focused research.
After completion of surveys, all participants were given handouts with tips and resources
regarding comprehensive healthy lifestyles. Participants were informed of the nature of the
study and the rationale for requesting height and weight information.

Also, this study is particularly salient due to the recent recognition of binge eating
disorder in the Diagnostic and Statistical Manual for Mental Disorders (DSM-5) (APA, 2013). Additionally, this was the first research study, to the knowledge of the researcher, to
investigate culturally specific foods and their implications on mental health disturbance.
Much attention has been paid to culturally specific foods and physical health disparities,
however the link between physical and emotional health presents a gap in the literature.
Findings may offer new understanding and suggestions for future research.
The study contributes to existing theory such as Black Feminist Theory (BFT) as a conceptual lens to understand the phenomenon of disordered eating in African American women. Additionally, results contribute to clinical best practices for mental health professionals when working with this population. Finally, the primary objective of the study was to better understand the role of ethnic identity as it relates to binge eating symptoms in African American women. Additionally, the role of culture specific food was explored in its relation to disordered eating.

In summary, the present study is unique in the following ways: (a) explores a wider demographic of African American women; (b) is a non-comparative subclinical study; (c) collects BMI information from participants; (d) has a unique focus on BED; (e) explores diet and cultural specific diets of this subgroup and (f) explores disordered eating through a BFT conceptual lens. These distinct qualities of the study add to the current literature on disordered eating in this population. Again, the goal of the study was to explore subclinical disordered eating attitudes and behaviors among African American women.

**Research Questions**

This study focused on the following research questions:

1. Does strong ethnic identity and culture specific diet contribute to binge eating behaviors in African American women?

2. How does ethnic identity influence restrictive and compensatory disordered eating behaviors?
3. What are the food preparation styles and dietary intake of African American women? How does this relate to any disordered eating behaviors?

4. What types of culturally specific foods are African American women eating? How does this relate to ethnic identity levels and disordered eating behaviors?

5. How do varying demographics (age, income level, education level, BMI, parental status) relate to ethnic identity, diet, and disordered eating behaviors?

**Definition of Terms**

**Eating Disorder** – Any of several psychological disorders, anorexia nervosa, bulimia, eating disorder NOS, binge eating disorder characterized by serious disturbance of eating behaviors as defined by DSM -5 (APA, 2013; Webster 2013).

**Disordered Eating** - a term used to describe eating habits or patterns that are sub-clinical, irregular and cause a significant amount of distress. Many different types of disordered eating habits exist, but these habits may not equate to a diagnosis of an eating disorder. (Tylka, & Hill, 2004). This construct will be measured using the Disordered Eating Attitudes Scales (DEAS).

**Anorexia Nervosa**- eating behavior characterized by a refusal to maintain a minimally normal body weight, significant restriction of dietary intake, a fear of gaining weight, and a significant disturbance in the perception of the shape or size of one’s body (APA, 2013).
**Bulimia Nervosa** – eating behavior characterized by repeated episodes of binge eating followed by compensatory behaviors such as self-induced vomiting, laxative use, diuretics, fasting and/or excessive exercise (APA, 2013).

**Eating disorder Not Otherwise Specified (NOS)** - a combination of disordered eating patterns that do not meet the criteria for anorexia or bulimia (APA, 2013).

**Binge Eating Disorder (BED)** – eating behavior characterized by episodes of consuming a significant amount of food in a short amount of time, characterized by loss of control, guilt, shame, and lack of compensatory behaviors (APA, 2013). This construct will be measured using the Binge Eating Scale (BES).

**Ethnic Identity**- The level of identification with an ethnic group or group of reference (Castro, 2003). This construct will be measured by the Multigroup Ethnic Identity Measure (MEIM).

**Diet**- the customary amount and kind of food and drink consumed by a person from day to day (Dunne, 2012). This construct will be measured using the Kaiser Permanente Food Frequency Scale.

**Culturally Specific Diet**- A diet frequently consumed by a group of people (Dunne, 2012). This construct will be measured using the Culturally Specific Food Frequency Questionnaire (CSFFQ).

**Other Specified Feeding or Eating Disorder (OSFED)**- This diagnosis was formerly known as Eating Disorder NOS. Other Specified Feeding or Eating Disorder is the most current diagnosis for individuals who have symptoms of
anorexia, bulimia, or binge eating disorder, however do not meet full criteria for
diagnosis of these disorders. They may present as underweight or overweight with
disturbed eating patterns and attitudes (APA, 2013).
CHAPTER II

Review of Literature

The purpose of the literature review is to outline current research and theory surrounding disordered eating, ethnic identity, and diet among African American women. Disordered eating, self-esteem, and body image issues are a growing problem in Western culture (Stice, 2002). There has been a large body of research focused on variables contributing to disordered eating and multiple treatment modalities developed, however the overwhelming majority of these studies have been conducted with samples composed predominantly of European American women (Stice, 2002). Garner (1993) even questioned the existence of eating disorders among non-European American women.

Current research has been conducted using samples of African American women, uncovering increasing rates of disordered eating patterns in women of color (Arriaza & Mann, 2001; Shaw et. A., 2004). A major gap in the eating disorder literature is the dearth of data concerning complexities of eating patterns within ethnic minorities. It is likely women from various ethnic groups experience many of the same sociocultural risk facts (e.g., internalization of societal beauty ideals, body image concerns) that have been shown to exist among European American women (Striegel-Moore & Cachelin, 2001).

Talleyrand (2012) states that established risk factors associated with eating disorders (e.g., body dissatisfaction, drive for thinness, thin-ideal internalization, dietary restraint) may be the explanation for the lack of attention given to women of color in the eating disorder literature. Because women of color may have different cultural standards of beauty, the
emphasis on drive for thinness may be inappropriate in understanding disorder eating in these subcultures (Polivy & Herman, 2002; Smolak & Striegel-Moore, 2001). Additionally, research has shown that the intersecting contextual factors (e.g., acculturation, racial identity, sexism, racism) may contribute to disordered eating patterns and weight issues in women of color (Polivy & Herman, 2002; Smolak & Striegel-Moore, 2001; Wood & Petrie, 2010). Further research is needed to determine how these contextual factors interact with eating patterns and may manifest themselves differently than European American women.

Oppression through sexual objectification experiences has proven to be a factor in disordered eating patterns in this subgroup of women. Watson et al. (2012) found eating and body manipulation as a coping mechanism to gain a sense of control in a sociocultural context where they are granted minimal social power. African American women with histories of sexual objectification experiences often gained weight to ward off other potential sexual objectification experiences. Harrington and Crowther (2010) found that after exposure to trauma, such as sexual violations, a wide range of difficulties can occur, including symptoms of posttraumatic stress disorder, depression, anxiety, substance abuse, and eating disturbance.

**Binge Eating**

Binge eating disorder (BED) is the newest edition of the DSM-5 (APA, 2013), extracting these behavior patterns from the former subcategory of Eating Disorder Not Otherwise Specified (NOS) and recognizing it as a separate class of eating disorders.
Binge eating disorder is defined as recurring episodes of eating a significant amount of food in a short period of time, without engaging in compensatory behaviors. During binge eating episodes, individuals experience feelings of loss of control and continue overeating despite being physically full. Individuals may experience feelings of guilt, shame, or disgust and may binge eat in private to hide the behavior. To meet criteria, individuals must demonstrate the behavior at least once per week over a period of three months (APA, 2013).

Interestingly, rates of binge eating behaviors in African American women have proven equal or higher than European American women (George & Franko, 2010; Striegel-Moore et al., 2000). Because African American women tend to have a more flexible body ideal, they may be protected from developing eating disorders directed at achieving thinness, such as anorexia or bulimia (Shattlesworth & Zotter, 2011), however may be at increased risk for developing problems on the other end of the eating disorder spectrum, such as binge eating disorder (Lovejoy, 2001). Due to skewed perceptions of eating disorders as drive for thinness focused and potential unawareness of cultural specific standards of beauty, minority women may not be adequately assessed and treated for binge eating disorder (Talleyrand, 2007).

Research suggests that African American women binge eat as a coping mechanism from the intersecting layers of social oppression they face (Talleyrand, 2012). It is critical that mental health professionals understand the contextual factors that may contribute to eating disorder symptoms, particularly binge eating disorder. Historically, African American women have not operated in the traditional gender roles of their counterparts. Due to the
separation of families and subsequent absence of the patriarchal role during eras of slavery and post reconstruction, African American women have become self-reliant, taking on multiple roles within their families (e.g., economic provider, head of household). Consequently, African American women have been socialized to take care of others prior to their own needs (Malson, Mudimbe-Boyì, O’Barr, & Wyer, 1990).

The pressure to appear strong and resilient despite significant social stressors, may contribute to both physical and mental illness in African American women. Because a larger more flexible body type is accepted in the African American community, it is quite possible that many African American women cope emotionally with food however their mental illness goes undetected. Furthermore, the complexity of the problems associated with eating disturbance often creates cumulative problems threatening well-being. Binge eating is associated with more severe psychological problems and obesity. The connection between binge eating and obesity contributes an additional stressor in the lives of minority women facing intersecting social identities.

According to the Center for Disease Control and Prevention (CDC, 2011) African American women have the highest overweight and obesity rates among all groups in the United States. These statistics translate to significant health risks. Individuals who are overweight or obese are more likely to suffer from high blood pressure, high cholesterol, and diabetes. These are all chronic health conditions and risk factors for heart disease and stroke (Talleyrand, 2012).
Although being overweight and obese are often comorbid conditions, it is not necessary to be obese in order to be diagnosed with BED (Brownley, Berkman, Sedway, Lohr, & Bulik, 2007). Regardless of the physical appearance of individuals diagnosed with BED, the clear psychiatric implications have been acknowledged for over a decade in the eating disorder literature (Shuttlesworth & Zotter, 2011). Despite the obvious threats to overall wellbeing, BED has not received the same research attention as anorexia and bulimia, nor the treatment reimbursement from insurance companies (Talleyrand, 2012). These factors may contribute to the under diagnosis of African Americans with eating disorders.

With the timely inclusion of BED in the DSM-5 as a separate identifiable disorder, eating disorders at the other end of the spectrum have gained increasing attention. According to the National Institute of Health, binge eating disorder has been identified as the most prevalent eating disorder in the United States (Hudson, Hiripi, Pope, & Kessler, 2007). Therefore, more research focused on binge eating as opposed to other types of disordered eating is necessary.

**Ethnic Identity**

The role of ethnic identity presents as a significant predictor for disordered eating in the existing body of research (Shuttlesworth & Zotter, 2011). Streiekel-Moore and Smolack (1996) argue that to fully understand and predict disordered eating in African American women, the level of ethnic identity must be considered in any research.

Ethnic identity has been a construct of interest throughout social science research. Ethnic identity models find their theoretical roots within the study of identity development
(Erikson, 1959). Erikson (1959) found that African Americans have been most impacted by identification due to restricted opportunities and pressure to conform. Cross (1971) and Helms (1996) continued the discussion on racial identity describing it as a critical part of the overall framework of individual and collective identity.

Cross (1971) described racial identity as a social construct with great implications for treatment of minority groups. Helms (1996) explored White racial identity and its connection to institutional racism. Cross (1971) advocated the evolution of a multicultural identity development for African Americans in the United States. Ethnic identity and racial identity are often used interchangeably in the literature, however have slight distinctions (Phinney, 1996). This study will focus on the influence of ethnic identity on disordered eating patterns and choice of dietary intake.

Ethnic identity is a multidimensional construct defined as the level of identification within an ethnic group or group of reference (Castro, 2003). Multiple aspects of culture encompass ethnic identity such as language, clothing, and food to help distinguish one ethnic group from another (DeVos & Romanucci-Ross, 1975). The importance of ethnic identity is often more salient and more highly developed among members of a group devalued by society (Phinney, 2005). Other components of ethnic identity include a sense of belonging, positive and negative attitudes about one’s ethnic group, involvement with other group members, acculturation and self-identification or self-labeling (Phinney, 1990).

Ethnic identity has been a construct of interest in eating disorder research with minority women primarily because of the misperceptions that eating disorders are a White
woman’s disorder. Studies in non-clinical samples have varied in determining the relationship between ethnic identity and risk/development of eating disorders in the literature. Ogden and Elder (1998) found no relationship between ethnic identity and risk of developing eating disorders. Lester and Petrie (1998) found that African American and Mexican American women who internalized society’s beliefs about attractiveness were at a greater risk for developing eating disorders.

Also, Wood and Petrie (2010) believe that strong ethnic group identity may serve as a significant buffer in negotiating the majority cultural milieu and rejecting societal messages that are restrictive in their parameters of what is considered beautiful. Shuttlesworth and Zotter (2011) found that African American women with low ethnic identity had higher rates of bulimic pathology. Petersons, Rojhani, Steinhaus, and Larkin (2000) found that in African American college-age women, high levels of ethnic identity were unrelated to drive for thinness or body dissatisfaction. Wood and Petrie (2010) found the more strongly African American women identified with their ethnic group, the less they internalized Western body image ideals and engaged in disordered eating.

Additional research from Perez and Joiner (2003) suggests that African American women with strong ethnic identities may engage in disordered eating, namely binge eating, to attain the fuller figured ideal for beauty in the African American culture. Higgin’s (1987) theory of the self has been used in the literature in understanding African American women’s desire to overeat in an effort to attain a cultural ideal. Perez and Joiner (2003) used Higgin’s (1987) theory of the self to conceptualize binge eating in African American women in their
study. They determined that by reducing the discrepancy between the actual and ideal selves, African American woman reduced the levels of distress and negative emotions surrounding the discrepancy. Although their research found low levels of disordered eating through anorexia or bulimia, African American women who reported body dissatisfaction reported significant binge eating symptoms aimed at attaining a fuller figured ideal (Perez & Joiner, 2003).

However, much less research has focused on ethnic identity and its impact on all forms of disordered eating. Shuttlesworth and Zotter (2011) explored ethnic identity and binge eating behaviors in a college-aged sample. This research analysis barely reached statistical significance, finding that stronger ethnic identity equated to lower levels of all forms of disordered eating. More research is needed to determine the impact of ethnic identity on binge eating behaviors in a wider demographic sample. Additionally, further research is needed to determine the specific mechanisms through which strong ethnic identity may protect or contribute to disordered eating in African America women.

Interestingly, African American women with high levels of ethnic identity have self-reported as more overweight than their lower weight counterparts (Siegel, Yancey & McCarthy, 2000). Understanding the complexities of weight and food among African American women is a daunting task and one most researchers have only examined through a physical health lens. The addition of Binge eating disorder to the DSM-5 (APA, 2013) may help to reexamine underlying emotional issues women carry underneath the physical weight.
**Black Feminist Theory**

African American women have a unique history in this country. To understand the behaviors of these women, it is necessary to put into context the lived experiences of African American women. There are numerous models and theories pertaining to ethnic identity, however Black Feminist Theory (BFT) best captures the ethnic identity of African American women. BFT postulates that African American women’s social location is an interlocking system of oppression, including racism, sexism, and classism. Watson et al. (2012) states an additional goal of BFT is to challenge the four externally defined images of African American women and empower women to create and articulate more personally defined images.

Moreover, the four foundational images of African American women that BFT espouses include the Jezebel, Mammy, Matriarch, and Welfare Mom. These ineffective images have evolved throughout history and resonate in contemporary culture as the primary images of identification for African American women (Watson, et al, 2012). Many of these images, particularly Mammy, relate to body image and socialization of African American women. The image of Mammy draws parallels to the body type of many women when considering African American women have the highest rates of obesity (Talleyrand, 2006).

First, the Mammy image is depicted as caring and nurturing. Mammy is most noticeable in that she is dark skinned and obese (Hill Collins, 2009). She is portrayed as asexual and physically unattractive. Mammy is depicted as a domestic worker, particularly cooking or taking care of children. Her role is primarily that of caretaker. The Jezebel is in
stark contrast to Mammy. She is hypersexual and promiscuous, often seen today in music videos that present African American women as promiscuous sexual objects to be enjoyed by others (Bounds Littlefield, 2008).

Next, the third image of the African American woman is the matriarch. The matriarch is overcontrolling, irate, and emasculating (Stephens & Phillips, 2003). The matriarch is thought to be a result of the reversal of gender roles resulting from slavery where African American women worked inside and outside of the home (Hill Collins, 2009; Hooks, 1981). The matriarch is prevalent in modern society and often articulated in the literature as the, strong Black woman ideology (SBW) (Harrington, Crowther & Shipherd, 2010).

The strong Black woman is a cultural symbol that may prove relevant to understanding African American women’s binge eating behaviors (Harrington, Crowther & Shipherd, 2010). The SBW ideal has emerged as a way for African American women to redefine themselves in a more positive light. However, this ideology may present as problematic when African American women are unable to attain such a high ideal. The SBW ideal is a symbol that represents women as capable of handling any challenges while admonishing signs of weakness or vulnerability (Harrington, et. al, 2010).

Additionally, another salient component of SBW ideology is the important role of caretaker. African American women pride themselves on their caretaking ability, often at the expense of their own needs and goals (Romero, 2000). Therefore, the idea of strength in the face of significant challenges has become a prominent factor in the identity development of
African American women (Morgan, 1999). While strength is an admirable trait, the SBW ideology presents itself as problematic for many African American women.

The pressure to present as strong despite all opposition, or to live up to a “superwoman” ideal can lead to shame, guilt, and depression when African American women feel they fall short of such an unattainable goal (Morgan, 1999). Coping with falling short of the ideal may take the form of binging. Beauboeuf-Lafontant (2003) stated that cultural pressures to embody strength and control often lead to a denial of emotional pain that may leave African American women susceptible to self-medicating with compulsive overeating. In opposition, to the matriarch and SBW, the final image of BFT is the welfare mom. The welfare mom is seen as lazy and passive, dependent upon financial assistance (Hill Collins, 2009). The welfare mom is typically an unwed mother who shuns employment possibilities to collect government assistance and continue procreating (Hill Collins, 2009). With the fragmented devious identities of these images (Mammy, Matriarch, Welfare Mom, and Jezebel) perpetuated in mainstream culture, it is no wonder African American women may struggle to form their own individuality.

The literature has frequently cited food as an acceptable coping mechanism for African American culture. However, the components of the traditional African American diet present multiple challenges for African American women. Unfortunately, the modern African American diet finds its roots in slave history and offers more physical and emotional health disparities than nutrition. An aim of this study was to better understand how African American women eat, as well as what they are eating.
African American Diet

Economics and slave history are culture specific factors at play when understanding African American experiences with food. In the United States, there has been a long standing oppressive historical relationship between African American women and food. First, the relationship between food and African American people must be examined. According to Horton and Horton (2004) slaves ate a diet consisting of parts of animals that were deemed, “cast-away,” that would be garbage, but were instead given to slaves to eat. These animals consisted primarily of the remains of pig parts.

Slaves were given the cheapest vegetables, typically collard greens, and a bushel of corn meal. The slave diet was high in fat and lacking in nutrition. Later, in the segregated Jim Crow South, poor wages made providing nutritious food a difficult task for many African American families. Many women worked as cooks, or domestic workers, for wealthy families and ironically struggled to feed their own families. Sharpless (2010) depicts in her book, Cooking in Other Women’s Kitchens: Domestic Workers in the South 1865-1960, the prevalence of malnutrition in African American families despite the abundance of food in their employers homes. Sharpless (2010) describes an African American domestic worker, Willie Mae Wright, who became addicted to starches because foods high in starch were cheaper and could keep her physically full throughout the day.

Furthermore, because of the deep poverty that most African American families faced, many women fed their families a diet consisting of bread, beans, clabbered milk, and fat pork (Sharpless, 2010). Even among families where both adults worked outside the home, African
Americans in southern states rarely had a diet that consisted of more than bread and fatback, or pork skin. The food choices of White families who employed domestic workers often directly affected the nutrition of African American families. A practice known as, “toting,” became quite popular in the south, whereby domestic workers would take leftover food in lieu of cash wages. The expectation of toting was that domestic workers could take home table scraps for their families, only after having shared the scraps with the family dog (Sharpless, 2010).

According to Sharpless (2010) diets consisting of cornbread, pork, flour hoecake, and turnip greens cooked in pork fat were still common well into the twentieth century and served on African American tables year round. Unfortunately, the slave diet has transcended generations and remains today in African American culture, known as soul food. Harrington, et al., (2010) state that centuries after slavery, African Americans remain slaves to soul food. While soul food or slave food may be tasty and hold cultural significance, these foods hold oppressive properties in the lives of African Americans today. Additionally, a soul food diet may be connected to African Americans embracing a larger body size and why they may be more prone to disordered eating such as binge eating disorder.

Moreover, a relationship exists between poor nutrition and both mental and physical health. The influence of poor nutrition on physical health concerns has been widely acknowledged, however, research on the role that nutrition plays in mental health has yet to be fully understood and embraced (Dunne, 2012). The brain is sensitive to dietary intake and requires a variety of complex carbohydrates, EFAs, amino acids, vitamins, minerals, and
water. Critical neurotransmitters such as serotonin and dopamine are derived from amino acids that play a crucial role in cognitive abilities and mental health (Dunne, 2012).

Additionally, glucose, the breakdown of complex carbohydrates, serves as the primary fuel for brain functioning. Foods such as starches that are high in carbohydrates help to maintain energy levels and elevate mood (Dunne, 2012). Therefore, proper nutrition can offer therapeutic properties to help regulate mood. However, problems can incur when food is used as one’s primary form of coping. Furthermore, depending on the nutrition or lack thereof of the dietary intake, food can exacerbate a mental health concern such as binge eating.

Finally, economics may be a barrier to accessing healthier food options for African American women. Dortch (1994) reported that at all educational levels, African Americans earn less than their white counterparts in most occupations. The economic plight appears even harder for African American women due to the fragmented nature of many African American families. Bounds Littlefield (2008) reported that 70% of African American children are born to single mothers. These single African American women are more likely than married women to experience poverty and to pass that poverty on to their children. Therefore, due to the lack of the patriarchal role, many African American women may experience financial difficulties that interfere with their ability to afford healthier food options.
Summary

The preceding review of the literature illustrates the social problems surrounding African American women and binge eating disorder. African American women are significantly affected by binge eating disorder at higher rates than any other eating disorder (Shuttlesworth & Zotter, 2011). African American women often consume diets that are high in carbohydrates and fats resulting from social restraints of poverty and slavery era oppression. African American women’s ethnic identity via Black Feminist Theory was explored as the theoretical foundation for the study. African American diet and implications for physical and emotional health were explored. Previous studies involving ethnic identity and disordered eating among African American women were reviewed.

Major themes found in the literature include contextual factors (e.g., racism, classism, sexism) that operate as major stressors in the lives of African American women, and how disordered eating behaviors may materialize as coping mechanisms. Binge eating disorder rates in African American women are equal or higher than European American women (George & Granko, 2010; Striegel-Moore et al., 2000). Because of negative images of African American women in the media, many women experience the pressure of being strong despite significant social stressors. Additionally, because the African American culture embraces a more flexible body image ideal, it is quite possible that women cope emotionally with food while the mental illness goes undetected.

With the recent inclusion of BED in the DSM-5 (APA, 2013) eating disorders on the opposite end of the spectrum have rightfully gained more attention. Given the increasing
rates of binge eating disorder, unique social stressors, and understudied culturally specific
diets, this study is a much needed contribution to the literature. The study is a starting point
in a better understanding of the contextual factors that interact with disordered eating in
African American women. Additionally, this study helped fill a gap in the literature in
understanding the manifestation of disordered eating through the conceptual lens of Black
Feminist Theory.
CHAPTER III

Method

The purpose of this study was to examine the role of ethnic identity, diet, and disordered eating patterns among African American women. This chapter details sample selection, instrumentation, and procedures for data collection and analysis.

Research Design

A multivariate regression analysis was used to analyze the relationship of binge eating behaviors with ethnic identity and diet. Each research question was analyzed using a multivariate regression analysis. An Analysis of Variance (ANOVA) was used to further analyze the regression analysis. Additional variables such as socioeconomic status, age, parental status, and educational level were analyzed to determine any interaction effects. Analyses was conducted using the statistical software R. Each research question was analyzed to determine correlation analysis.

The Binge Eating Scale data were analyzed using multivariate analysis of each score to classify each participant as demonstrating low, moderate, or high binge eating behaviors. The independent variable, ethnic identity were regressed against the average scores for ethnic identity search and ethnic identity commitment questions. Responses to the culturally specific diet questionnaire were stratified on individual questions against binge eating scores.

Participants

The targeted population of interest in the study was African American women ages 18 and above. The sample was obtained by recruiting African American women from several
local churches in the southeastern region of North Carolina. These churches were chosen because their congregation demographic is predominantly African American. The study was limited to only African American women ages 18 and older. Participants were asked to stay after church to complete the surveys. Other participants were asked to complete surveys during a Women’s Day event at church. The sampling goal was to obtain approximately 150 participants from African American churches in the area. A total of 142 completed surveys were collected.

**Instrumentation**

**Multigroup Ethnic Identity Measure (MEIM)** is a 12-item self-report scale developed by Phinney (1999) to measure the process of ethnic identity development (Appendix A). The MEIM is a widely used scale in the literature on African American identity as well as eating behaviors. Roberts et al. (1999) using factor analysis with a large diverse sample, found that the MEIM comprises two factors, ethnic identity exploration (a process-oriented developmental and cognitive component) and commitment (an effective and attitudinal component). The revised version (1999) has fewer items and does not include the separate other-group orientation scale. The two factors in the scale include ethnic identity exploration, as assessed by items 1, 2, 4, 8, and 10; and ethnic identity commitment as assessed by items 3, 5, 6, 7, 9, 11, and 12. The ethnic group names in the first paragraph can be adapted for use with different populations. Items 13, 14, and 15 are not part of the scale, but helpful for identifying participants’ ethnic heritage.
The MEIM has been used in numerous studies and has consistently shown good reliability and validity, typically with alpha levels above .80 across a wide range of ages and ethnic groups. Goodstein and Poterotto (1997) found measures of internal consistency for the ethnic identity subscale ranging from a low of .81 to a high of .92, with a mean of .86. The second subscale alphas ranged from a low of .35 to a high of .82 with a mean of .69. The MEIM rates responses on a four point Likert scale with points ranging from strongly agree to strongly disagree. Scores are obtained by calculating the total mean scores of each individual question. Participants scores range from 5 (high identity) to 1 (low identity), therefore mean scores range from 1 to 5.

Sample items include “I feel a strong attachment toward my ethnic group,” “I participate in cultural practices of my own group, such as special food, music, or customs.” The MEIM provides a single score for ethnic identity. Scores do not correlate to a particular stage of racial identity, rather speak to the multidimensional construct of ethnic identification with a certain group including the cultural aspects of the group, such as language, food, and clothing (Worrell, 2000). The MEIM will be used as the sole measurement tool for ethnic identity in the study.

**Disordered Eating Attitudes Scale (DEAS)** is a 25 item questionnaire developed to assess individual’s eating attitudes (Alvarenga, Philippi & Scaglioni, 2010). Eating attitudes are defined as thoughts, feelings, behaviors, and relationship with food. Eating attitudes are highly correlated with food choices and health status (Alvarenga, Pereira, Scaglioni, Philippi, Estima, & Croll, 2010). The scale consists of questions grouped into five subscales: (a)
Relationship with food (questions 8, 10, 13, 17-25) (b) concerns about food and weight gain (questions 5, 14-16), (c) restrictive and compensatory behaviors (questions 4, 6, 7, 12), (d) feeling toward eating (questions 2, 3, 9), and (e) idea of normal eating (questions 1a,b,c and 11) (Appendix B). Higher scores are indicative of more disordered attitudes, with scores ranging from 37 to 190. Part one of the DEAS contains questions with scores ranging from 1 to 5 points. Part two includes questions on a likert scale, with scores ranging from 1 to 5. Sample questions include, “I worry about how much a certain food will make me gain weight,” or “I am angry when I feel hungry.” The scale is suited for use in evaluating disordered eating attitudes and discrepancies in beliefs, thoughts, and feelings for specific eating patterns and relationships with food in clinical and non-clinical samples (Alvarenga, Philippi & Scagliusi, 2010).

Alvarenga et al (2010) found internal consistency at .76 (Cronbach’s Alpha) and test-retest Spearman correlation coefficient at $r = .9$ (p <0.0001), indicating high reliability. Convergent validity was assessed using correlations between Eating Attitude Test-26 (EAT-26) and Restrain Scale (RS). The DEAS total score was significantly associated with EAT-26 ($r = .65$) and RS ($r = .69$) scores. The DEAS is believed to be a useful assessment tool in the study of disordered eating in clinical and nonclinical populations (Alvarenga et al, 2010). The DEAS will be used in the study as one measurement tool to assess disordered eating behaviors.

**Binge Eating Scale (BES)** is a 16 item questionnaire developed to assess binge eating behaviors in obese adults (Appendix C) (BES; Gormally, Black, Daston, & Rardin,
1982). The Binge Eating Scale describes both the behavioral aspects (e.g., eating large amounts of food), and the feelings/cognitions (e.g., guilt), that are associated with binge eating. The scale assesses several diagnostic characteristics of binge eating disorder. The BES has been shown to differentiate individuals with low, moderate, and severe binge eating as assessed by a structured interview (Gormally et al., 1982).

The BES was originally developed to identify binge eaters within an obese population (Gormally et al., 1982). The scale presents a series of differently weighted statements for each item, from which participants select the statement that best describes their attitudes and behaviors. For example, participants are asked to select the statement that best describes their eating from the following statements: (a) I can usually stop eating when I decide I’ve had enough; (b) Sometimes I feel an urge to eat that I cannot control; (c) I often feel impulses to eat so strong that I cannot win, but sometimes I can control myself; or (d) I feel totally unable to control my impulses to eat.

High scores indicate more binge eating pathology ranging from 0-46. Scores at or above 27 serve as a cutoff point for identifying the presence of severe binge eating. Scores at or above 17 indicate mild binge eating, and scores under 17 indicate low or no binge eating behaviors. The test-retest reliability has proven sound \( r = .87, p < .001 \) and moderate associations with binge eating severity as measured by participant food record \( r = .20-.40, p < .05; \) Timmerman, 1999). The BES will be used to determine the prevalence of binge eating behaviors in a non-clinical sample of African American women.
**Block Dietary Fat Intake Screener** is a 17 item food frequency questionnaire developed by Block Nutrition (Block, Gillespie, Rosenbaum, & Jenson, 2000). This screener is self-administered and takes about five minutes to complete, however is designed for clinical use by ranking individuals with regard to their usual fat intake. The block screening may also be analyzed using prediction equations to generate point estimates of total fat (grams), saturated fat (grams), percent calories from fat, and cholesterol (mg) (Appendix D).

The Block dietary fat screener asks participants for frequency of foods consumed and not portion sizes. Food items assessed in the screener include hamburgers, beef or pork, salad dressings, margarine/butter/oil for cooking, pizza, French fries, and ice cream. Food items are assessed in a range of consuming (a) one month or less, (b) 2-3 times per month, (c) 1-2 times per week, (d) 3-4 times per week, or (e) 5 times or more per week. Higher scores indicate increased fat intake. The cutoff score of 23 or higher indicates higher fat intake than the recommended amount. Participants can take the screener online and generate a score, or paper and pencil assessments can be used and scored by clinicians/researchers. Participants in the study will complete a paper copy of the screener that will later be scored.

Scoring the dietary fat screener is relatively simple. Each frequency is given a numeric value; 1 month or less=0; 2-3 times a month=1; 1-2 times a week= 2; 3-4 times a week= 3; 5 times a week or more. Scores are given for each item and correlated with the following scoring key. Scores range from 0-23 or higher; scores 0-7 indicate very low (less than 25% of caloric intake) fat intake, 8-14 indicates average fat intake (approximately 30-
35% of caloric intake), 15-22 indicates high fat intake (over 35% of caloric intake), scores 23 and higher indicate very high fat intake (approximately 40-50% of caloric intake).

The Block dietary fat screener was developed based on the U.S. Preventive Services Task Force initiative to lower dietary fat and cholesterol intake and increase of fiber and fruit/vegetables to reduce prevalence of heart disease, cancer, stroke, hypertension, obesity, and diabetes (Block, et al, 2000). The screener is a rapid, inexpensive tool to assess dietary intake as needed as well as prevent nutrition related health problems. This tool was derived from a full-length 100 item screener and has been validated in at least one study of a multi-ethnic population in the San Francisco Bay area (Block, et al, 2000).

Moreover, the screener has proven effective in identifying individuals with high-fat intake, with correlations of .6-.7 (p <.001) for total fat, saturated fat, and cholesterol. Correlations from the full length questionnaire were found at varying levels for various types of fats. Total fat (grams per day) r = .69, (p < .001); Saturated fat (grams per day) r = .72, (p < .001); Monounsaturated fat (grams per day) r = .67, (p < .001); Dietary cholesterol (mg per day) r = .60, (p < .001); Percent fat (daily percent of total calories) r = .63, (p < .001).

Estimates from the full-length questionnaire were calculated using the USDA Food Pyramid standards and compared against 12 to 16 day diet records (Block, et al, 2000).

Respondents scoring high on the screener likely have high saturated fat intake and a high monounsaturated fat intake and would benefit from speaking with a nutrition professional or physician about their overall health. The correlation coefficients ranged from .70 to .77 for reliability comparisons between the short and full-length questionnaires,
proving it to be a reliable measure of dietary intake despite its brevity (Brown & Griebler, 2003). The Block dietary fat screener will be used in the study as one assessment, in addition to the CSFFQ, of measuring diet in African American women.

**Culture Specific Food Frequency Questionnaire (CSFFQ).** A culture specific food frequency questionnaire, developed by the researcher is an 11 item questionnaire designed to assessing culture specific foods, particularly soul food diets, in African American groups (Appendix E). An assessment aimed at cultural specific foods, particularly soul food, was absent in the literature, therefore the researcher developed a tool to assess frequency of consuming foods associated with African American culture.

The psychometric properties of the CSFFQ have not yet been determined, however the following strategic steps were undertaken to ensure content validity. To determine food items consistent with African American soul food diet, the food history on African Americans from the following authors Covey (2009), Mitchell (2009), Williams-Forson (2006), Bower (2007), and Opie (2008) was reviewed. The top 11 food items that were most prevalent in the literature on soul food diet were retained. Sample food items on the CSFFQ include collard greens, corn bread, and fried chicken. A reoccurring theme included the consumption of pork as well as food preparation with pork (Covey 2009; Mitchell 2009; Bower 2007). Therefore, pork was listed on the questionnaire as multiple food options as well a cooking preparation style.

Next a frequency scale to determine frequency of consumption of each item was created mimicking the Block dietary screener system. Participants will be asked to estimate
the frequency they consume each item ranging from (0) Rarely (1/month or less), (a) Sometimes (2-3 times per month), (b) Often (1-2 times per week), (c) Very Often (3-4 times per week), and (d) 5 times a week or more. Scoring also mimics the Block dietary screener with higher scores indicating more frequency of consuming soul food items and lower scores indicating lower frequency of consuming soul food items. Scores range from 0-44; scores 0-7 indicate very low consumption of soul food, 8-14 indicates average consumption of soul food, 15-22 indicates high consumption of soul food; scores 23 and higher indicate very high consumption of soul food.

**Demographics form.** A brief demographic form was included in the instrumentation packet given to participants (Appendix F). Demographic data will include: age, gender, religion, race/ethnicity, education level, socioeconomic status, marital status, weight/height, and parental status. Categories for race/ethnicity and religion were obtained from the U.S. Census (2010).

**Procedure**

**Data collection.** Approval for the study was obtained from the North Carolina State University Institutional Review Board (Appendix G). Pastors and key stakeholders in each church were contacted regarding participation in the study. Appointments with pastors and/or other key stakeholders were scheduled to explain the purpose and methodology of the study. Once agreement to participate was obtained, the researcher was provided appropriate dates and times to conduct the research. The researcher targeted three predominantly African American churches with varying demographics for the sample.
Upon conducting the research, the researcher was given space to speak to the congregation during a church service to describe the nature of the research. The researcher described the study and gave information regarding when the study would take place. An announcement was also placed in the churches weekly bulletin board as a reminder to interested women. The researcher reminded the congregation again the day of the research, asking interested participants to meet in a separate secure location at the church.

Upon administering the surveys, the researcher met with interested participants in a private room to explain that the details of the study. The researcher explained that participation was completely voluntary and that participants could choose to end participation at any time. Participants were informed that no identifying information would be used in reporting results. Participants were strongly encouraged to complete all questions and avoid skipping any items. Finally, participants were reassured that data would be kept in a confidential, safe locked box only to be accessed by the researcher and that upon completion of the study and any subsequent publication of results, data would be destroyed.

Each participant received a packet of information containing the informed consent form (Appendix H), the demographic form, and copies of each instrument. The demographic and informed consent form had corresponding numbers for identification to protect the confidentiality and anonymity of participants. Participants read the informed consent and checked the box stating their understanding and willingness to participate in the study. Participants were given pens to complete the study as well as refreshments to enjoy. Finally,
the informed consent was separated and signed by the researcher to ensure confidentiality of responses.

**Church demographics.** Three church congregations agreed to participate in the study. All churches were Christian churches located in the piedmont area of North Carolina in Wake and Durham counties. The first church was located in Apex, North Carolina and is described as an older church community, established in the early 1960’s. This church prides itself on a deep history of Christian service in the rural community of Apex. The church population is approximately 300 members, comprised of many families in the community. Research was conducted after a Black History Celebration service where participants enjoyed soul food cuisine while answering survey questions.

The second church was a larger congregation of over 3,000 members located in Durham, North Carolina. This church is located in the heart of Research Triangle Park, and is described as a congregation of young professionals, established in 2003. The mission of the church is for members to become ambassadors and spread the message of the gospel. The women’s ministry is extremely involved in the overall wellness of women and conduct regular workshops on wellness. Research was conducted during a Women’s Day event.

The third church was also a larger congregation of over 3,000 members located in Raleigh, NC. This church has a longer history in the community, established in 1982. The mission of the church is to disciple and empower Christians to win souls for Christ. The goal of the women’s ministry is to equip women to be leaders and sisters in the community.
Research was conducted after church service. Interested participants were asked to stay after service to participate in the research.

**Data analysis.** All data was collected and scored using the above mentioned scoring techniques. Data was loaded into the statistical software R and analyze based on the following research questions:

1. Does strong ethnic identity and culture specific diet contribute to binge eating behaviors in African American women?

First, ethnic identity measures using raw scores from the MEIM were regressed against raw scores of the Block Dietary Fat Screener and the Culturally Specific Food Frequency Questionnaire. Disordered eating served as the dependent variable and was measured using raw scores from the DEAS and BES. Predictor variables included diet and ethnic identity, as measured by raw scores from the Block screener, CSFFQ and MEIM. The hypothesis was high levels of ethnic identity would be positively associated with higher CSFFQ scores and Block scores.

2. How does ethnic identity influence restrictive and compensatory disordered eating behaviors?

Second, ethnic identity, as measured by raw scores from the MEIM was regressed against subscale 3 of the DEAS which accounted for restrictive and compensatory behaviors (questions 4, 6, 7 and 12). The hypothesis was that high levels of ethnic identity would be negatively associated with high levels of restrictive and compensatory behaviors.
3. What are the food preparation styles and dietary intake of African American women? How does this relate to any disordered eating behaviors?

Third, the raw score from question 8 on the CSFFQ (prepare food with pork) were regressed against raw scores from the DEAS and BES. The hypothesis was that high scores on question 8 of the CSFFQ (indicating often use of pork with food preparation) would be positively associated with higher scores on both the DEAS and the BES.

4. What types of culturally specific foods are African American women eating? How does this relate to ethnic identity levels and disordered eating behaviors?

Fourth, descriptive statistics were run on the CSFFQ to determine what types of traditionally soul food items participants are consuming. These statistics were regressed against raw scores from the MEIM, BES, and DEAS. The hypothesis was that more than half of the foods listed on the CSFFQ would be reported as consumed at least sometimes (indicating consumption of 2-3 times per month) and frequency of those items would be positively associated with higher raw scores from the MEIM, BES, and DEAS.

5. How do varying demographics (age, income level, education level, BMI, parental status, marital status) relate to ethnic identity, diet, and disordered eating behaviors?

Lastly, descriptive statistics were analyzed using the demographic form to determine statistical information for age, income, education, BMI, parental status, and marital status. Each of these items were regressed against raw scores from the MEIM, CSFFQ, Block screener, BES, and DEAS. The hypothesis was that older single women with less education
and lower socioeconomic status with children would report higher disordered eating scores, particularly higher binge eating scores and higher levels of ethnic identity. An additional hypothesis was that older married women with higher levels of education and socioeconomic status with or without children would report high levels of ethnic identity and lower levels of disordered eating. It was also a hypothesis that average levels (scores 8-14) of culturally specific foods would be reported from all women regardless of demographic differences. A final hypothesis was that higher reported BMI scores would be positively associated with marital status, parental status, ethnic identity, and diet. Finally, data analysis results is presented using a frequency tables and boxplot graphs.
CHAPTER IV

Results

The purpose of the current study was to better understand disordered eating patterns among African American women. The variables of interest included diet and ethnic identity. The study focused on the following research questions: (a) Does strong ethnic identity and culture specific diet contribute to binge eating behaviors in African American women? (b) How does ethnic identity influence restrictive and compensatory disordered eating behaviors? (c) What are the food preparation styles and dietary intake of African American women? How does this relate to any disordered eating behaviors? (d) What types of culturally specific foods are African American women eating? How does this relate to ethnic identity levels and disordered eating behaviors? (e) How do varying demographics (age, income level, education level, BMI, parental status) relate to ethnic identity, diet, and disordered eating behaviors?

A multivariate regression analysis was conducted to test research questions using the statistical package R. An Analysis of Variance (ANOVA) was used to further analyze ancillary data. The Akaike Information Criterion (AIC) was used to decipher most salient demographic information in relation to disordered eating. This chapter contains descriptions of the research sample, variables of interest, and research findings. A summary of findings and visual representation of results are provided.
Sample

The sample consisted of 142 African American women ages 20 to 84. Participants varied in age, relationship status, education status, income, occupation, and BMI range. The average age of the sample was approximately 42 years old ($M=42.01$) with a standard deviation of approximately 15 years ($s=14.975$). Participant’s income ranged from less than $25,000 per year to over $65,000 per year. The median value was 36.45 with 43% ($n=62$) of participants income ranging from $25,000-$35,000 per year. Twenty-seven participants earned $36,000-$45,000 per year (19%). Twenty-four participants earned over $65,000 per year (16.9%). Fifteen participants earned $46,000-$55,000 per year (10%). Ten participants earned $56,000-$65,000 per year (7%). See Figure 1.

![Income Range](image)

**Figure 1 Income Levels of all Participants**

Occupation of participants proved to be a significant demographic in relation to disordered eating. The majority of women, 61% ($n=87$) worked full time. Twenty women
were retired (14%). Eleven participants worked part time (7.7%). Nine participants were full time students (6.3%). Five participants were stay at home mothers (3.5%). Five participants were students and worked part time (3.5%). Two participants worked full time and were students (1.4%). Lastly, two participants were unemployed (1.4%). See Figure 2.

Education varied among participants and was a significant predictor variable. Thirty-seven participants had a master’s degree (27%). Thirty participants had a college degree (BA or BS) (22%). Twenty-six participants had some college education (19%). Twenty-one participants had a high school diploma (15%). Thirteen participants had an associate’s degree (9%). Lastly, eleven participants had a doctoral degree (8%). Overall, the sample of women
proved to be well educated, however, the average income level appeared lower than expected considering the average education level.

![Pie chart showing education levels among all participants]

**Figure 3 Education Levels among all Participants**

Relationship status was divided. Sixty-two women were married (43%) and fifty-seven were single (41%). Eleven women reported being divorced (8%). Two women reported being in a domestic partnership (1%), and nine women (7%) reported being widows.

Participants reported an average of one child ($M=1.34$) ($s=1.3$). One hundred and twenty-six women were mothers (89%). Of the women with children, twenty four were single parents (17%). See Figure 3.
Height and weight were listed in ranges, therefore Body Mass Index (BMI) could not be precisely determined. However, BMI is presented in ranges. The highest weight range was 200lbs and over, with 27% (n= 39) of participants in this category. The second highest weight range was 161-180lbs, with 22% (n=32) followed by 141-160lbs with 20% (n= 29); 121-140lbs with 16% (n=23); 180-200lbs with 9.8% (n=14); lastly 100-120lbs with 3.5% (n=5). Interestingly, 36.8% (n=53) of participants ranged between 181 and over 200 pounds.

Height ranges included 54% (n= 77) of participants at 5’-5’5. The second highest height range was 5’6-5’11 (n=55), with 38.7% of participants in this category, followed by under 5’0 with 3.5% (n=5) and 6’0 and above with 1.4% (n=2). Examining height and weight relationships is essential to determining overall physical health. Body Mass Index (BMI) examines this relationship. See Figure 4.

The average Body Mass Index of the sample ranged from 32.27- 37.78, with 57% (n= 81) of participants in this category. The normal BMI for an adult woman ranges between
18.5- 24.9. Women with a BMI of less than 18.5 are considered underweight. Women with a BMI of 25-29.9 are considered overweight, and women with a BMI of 30 or higher are classified obese. Considering 27% of the sample (the highest weight range) was 200lbs or above, the sample appears overweight. This is reflective of statistics on weight among the U.S. African American female population (Mitchell, 2009). See Figure 5.

Figure 5 Weight among all Participants
Women in the 200lbs and over category had alarming BMI scores, with 100% (n= 39) falling in the overweight or obese category. Participants 200lbs and over in height range 5’ and under (1%) fell in the obese II category with a BMI of 39. Participants 200lbs and over in the height range 5’1-5’5 (15%) split between obese I and obese II with BMI ranges of 38-33. Participants 200lbs and over in the height range 5’6-5’11 (19%) split between overweight and obese levels, with BMI ranges of 32-28; Participants 200lbs and over in the height range 6’ and over (2%) fell in the overweight category with a BMI of 27. See Figure 6.

Moreover, these BMI ranges were likely conservative as participants only selected a category of 200lbs or over versus indicating their exact weight. BMI ranges were calculated using the 200lb marker for this category, however, it is likely that many participants exceeded 200lbs, thereby further increasing their BMI. These statistics are concerning, as
higher BMI increases risk of weight related health problems and death (CDC, 2011). See Figure 7 and Table 1.

![Height of Women 200 lbs and over](image)

**Figure 7 Height of Participants 200lbs and over**

**Table 1**

**Body Mass Index (BMI)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Body Mass Index (kg/m²)</th>
<th>Over Body Weight (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>&lt; 18.5</td>
<td></td>
</tr>
<tr>
<td>Normal</td>
<td>18.5-24.9</td>
<td></td>
</tr>
<tr>
<td>Overweight</td>
<td>25.0-29.9</td>
<td></td>
</tr>
<tr>
<td>Obese I</td>
<td>30-34.9</td>
<td>&gt;20%</td>
</tr>
<tr>
<td>Obese II</td>
<td>35-39.9</td>
<td>&gt;100%</td>
</tr>
<tr>
<td>Obese III</td>
<td>40-49.9</td>
<td>&gt;175%</td>
</tr>
<tr>
<td>Superobese</td>
<td>&gt;50</td>
<td>&gt;250%</td>
</tr>
</tbody>
</table>
The subclinical sample of women presented with interesting eating dynamics. It is difficult to determine an exact percentage of participants who could be classified with an eating disorder. However, examining the various factors such as eating attitudes, binge eating scores, and BMI reveals intriguing relationships and patterns. Results from subscale 3 of the DEAS, participants reported low restrictive and compensatory eating patterns (M=8; sd=4). Based on BMI, DEAS, and BES scores, it appears the sample is more at risk for binge eating disorder. The average binge eating score reflected no diagnostic binge eating behaviors (M=9; sd=6.9). Disordered eating attitude scale averages indicated higher negative eating attitudes (M=76.59; sd=16). Participants scored significantly higher on the DEAS than the BES. Moreover, the standard deviation of DEAS scores (sd=16) indicates a range of disordered eating attitudes.

These eating attitudes clearly manifest in the physical manifestation of the person. Average BMI ranged from 32.27-37.78, indicating the average participant was obese. The diagnosis of binge eating disorder is complicated because it is not measured solely on one factor, such as BMI. When examining all variables (BES, DEAS, BMI) it appears there is a discrepancy between how participants reported their eating behaviors and their weight. This discrepancy could be contributed to many factors. Participants could have relatively average eating attitudes, however have a medical condition that accounts for high BMI. Also, participants may be uneducated to accurate portion sizes therefore may in fact be overeating or binge eating without conscious knowledge of such. Participants reported relatively low
binge eating scores, however reported significantly higher disordered eating attitude scores, and significantly higher BMI scores.

Considering BMI and DEAS scores alone, approximately 27% of the sample could be classified as Other Specified Feeding or Eating Disorder (OSFED) formerly known as Eating Disorder Not Otherwise Specified (ED NOS). This diagnosis captures people who have symptoms of anorexia, bulimia, or binge eating disorder, however do not meet full criteria for diagnosis of these disorders. They may present as underweight or overweight with disturbed eating patterns and attitudes (APA, 2013).

**Variables of Interest**

The variables involved in the study included diet, ethnic identity, and disordered eating. Disordered eating was identified as the dependent variable and was measured using both restrictive and compensatory behaviors as well as binge eating behaviors. Binge eating behaviors were a focus of the study based on results from a review of the literature. Moreover, within the multivariate regression analysis, the observation of the relationships between the independent variable or predictor variables and the dependent variable is allowed. Additionally, the correlation between the two predictor variables can also be observed.

The variables described were measured through the use of six instruments. In order to assess binge eating, participants completed the Binge Eating Scale; in order to assess restriction and compensatory behaviors, participants completed the Disordered Eating
Attitudes Scale (particularly Subscale 3). Measures of diet were assessed through the use of the Block Food Frequency Questionnaire and the Culturally Specific Food Frequency Questionnaire. Finally, ethnic identity was measured through the use of the Multiphasic Ethnic Identity Measure. Average scores of each variable are presented in table 2.

**Table 2**

**Average Scores of Variables**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Average (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnic Identity (Multiphasic Ethnic Identity Measure)</td>
<td>4.15</td>
</tr>
<tr>
<td>Disordered Eating (Disordered Eating Attitude Scale)</td>
<td>76.59</td>
</tr>
<tr>
<td>Binge Eating (Binge Eating Scale)</td>
<td>9.31</td>
</tr>
<tr>
<td>Culture Specific Diet (Culture Specific Food Frequency Questionnaire)</td>
<td>10.47</td>
</tr>
<tr>
<td>Diet (Block Food Frequency Questionnaire)</td>
<td>22.44</td>
</tr>
</tbody>
</table>

**Data Cleaning**

One hundred and sixty surveys were collected in the study. Data were collected between February and March 2014. Eighteen surveys were removed from the study for the following reasons: (a) 10 surveys were returned without a completed informed consent form (b) eight surveys contained significant missing data. The 142 surveys included in the study represent 82% of the total surveys collected. The data analysis was conducted using the statistical software R.
**Assumptions**

A multivariate regression analysis is expected to meet several assumptions to be valid: (a) variables are normally distributed; (b) a linear relationship exists between the dependent and independent variable(s); (c) variables are measured independent of error; and (d) homoscedasticity (Cohen, Cohen, West, & Aiken, 2003; Osborne & Waters, 2002). In addition to the basic assumptions required for a valid multiple regression, the assumption of multicollinearity was also tested. The following section presents the results of the test of assumptions for the predictor model.

**Normal distribution.** Skew and kurtosis were analyzed for all independent variables using the Skew/Kurtosis Test (sktest). All independent variables’ skew and/or kurtosis exceeded the acceptable range of +/-1. By using a square root transformation, scores were transformed to clearly reflect a normal distribution. See Table 3.
Table 3

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Skew</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEIM</td>
<td>4.15</td>
<td>0.58</td>
<td>-0.72</td>
<td>0.03</td>
</tr>
<tr>
<td>DEAS subscale3</td>
<td>8.12</td>
<td>4.24</td>
<td>0.79</td>
<td>-0.43</td>
</tr>
<tr>
<td>DEAS</td>
<td>76.59</td>
<td>16.38</td>
<td>0.62</td>
<td>0.06</td>
</tr>
<tr>
<td>BES</td>
<td>9.31</td>
<td>6.96</td>
<td>1.11</td>
<td>0.99</td>
</tr>
<tr>
<td>CSFFQ</td>
<td>10.47</td>
<td>6.84</td>
<td>1.10</td>
<td>1.14</td>
</tr>
<tr>
<td>Block FFQ</td>
<td>22.44</td>
<td>10.28</td>
<td>0.61</td>
<td>0.03</td>
</tr>
<tr>
<td>sqrBES</td>
<td>2.80</td>
<td>1.19</td>
<td>-0.05</td>
<td>0.03</td>
</tr>
<tr>
<td>sqrCSFFQ</td>
<td>3.06</td>
<td>1.04</td>
<td>0.25</td>
<td>-0.08</td>
</tr>
</tbody>
</table>

*Note.* MEIM= Multigroup Ethnic Identity Scale; DEAS= Disordered Eating Attitude Scale; BES= Binge Eating Scale; CSFFQ= Culture Specific Food Frequency Questionnaire; Block FFQ= Block Food Frequency Questionnaire.

**Linear relationship.** Osborne and Waters (2002) state, “multiple regression can accurately estimate the relationship between dependent and independent variables if the relationships are linear in nature” (p.1). A visual model to test linearity of variables was used to examine the standardized residuals versus standardized predicted values residual plot. The standardized residuals versus standardized predicted values residual plot is presented in figure 8. The consistency of the linear relationship minimizes the chance of a Type I error (Osborne & Waters, 2002).
After performing multiple diagnostics the best fit model was determined (Table 3).

Ethnic identity (MEIM) and the square root of culture specific food (CSFFQ) was the best fit model to predict disordered eating, \( F(2, 135) = 3.974, p < .05 \). The adjusted R-Squared= 0.04161, suggesting the model accounts for 4.6% of the variance in predicting disordered eating. Although the model is significant \( (p = .02) \), it appears that there is still a lot of variance left unaccounted for. Further research is needed to identify predictors that would help the model.

**Table 4**

**Final Model**

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Error</th>
<th>( t ) value</th>
<th>( p ) value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.89519</td>
<td>0.76817</td>
<td>1.165</td>
<td>0.2459</td>
</tr>
<tr>
<td>MEIM score</td>
<td>0.31861</td>
<td>0.17438</td>
<td>1.827</td>
<td>0.0699</td>
</tr>
<tr>
<td>Sqr CSFFQ</td>
<td>0.19540</td>
<td>0.09715</td>
<td>2.011</td>
<td>0.0463*</td>
</tr>
</tbody>
</table>

*Note. MEIM= Multigroup Ethnic Identity Scale; DEAS= Disordered Eating Attitude Scale; BES= Binge Eating Scale; CSFFQ= Culture Specific Food Frequency Questionnaire; Block FFQ= Block Food Frequency Questionnaire. (a) Predictors: Ethnic identity, Culture specific food (b) Dependent Variable: Binge Eating. \(*p < .05 \)
Figure 8 Normality Assumptions Plot

**Independence of errors.** The assumption of independence of errors confirms the errors associated with one observation are not correlated with the errors of any other observation (Cohen et al., 2013; Osborne & Waters, 2002). The independence of errors for this study was tested using the Durbin-Watson statistic. The Durbin-Watson statistic examines the relationship between values within a regression model. Scores range between 0-4 with a score near 2 indicating the independence of errors. The Durbin Watson statistic score for the final model was 1.83, indicating independence of errors.
**Hoscedasticity.** Hoscedasticity refers to the consistency of the variance of errors across all levels of the independent variables (Cohen et al, 2013; Osborne & Waters, 2002). If the variance of errors is inconsistent across all levels of the independent variables, then the independent variables are heteroscedastic. Heteroscedasticity increases the possibility of a Type I error. Hoscedasticity can be determined by examining the standardized residuals versus standardized predicted values residual plots. This study utilized the Non-constant Variance Test (NCV) to test for constancy of variance. A large chi-square value would indicate the presence of heteroscedasticity. Chi-square = 0.31, df = 1, p = .573 > .05, therefore the errors were homoscedastic.

**Multicollinearity.** Multicollinearity refers to the predictor variables in a regression model being highly correlated, meaning that one variable can be linearly predicted from the other variables (Cohen & Aiken, 2002). The Variance Inflation Factor (VIF) statistic was used to determine multicollinearity. VIF scores greater than 4 indicate the possibility of collinearity. The VIF scores for the final model include 1.005095 for ethnic identity and 1.005095 for the square root of the culture specific food frequency questionnaire. Because VIF scores are less than 4 for all terms there was no apparent multicollinearity.

**Correlation of dependent variable to independent variables.** The Pearson correlation coefficient (r) was used to determine the strength and direction of the relationship between the dependent variable and each independent variable. Values of r range from +1 to -1 with 0 indicating no linear relationship and +1/-1 a perfect positive or negative relationship. The results are presented in Table 4.
Table 5

Pearson Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>MEIM</th>
<th>Block FFQ</th>
<th>sqrBES</th>
<th>sqrCSFFQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEIMscore</td>
<td>1.000</td>
<td>0.0447548</td>
<td>0.1532150</td>
<td>0.0629082</td>
</tr>
<tr>
<td>Block FFQscore</td>
<td>0.0447548</td>
<td>1.000</td>
<td>0.1731244</td>
<td>0.6239488</td>
</tr>
<tr>
<td>sqrBES</td>
<td>0.1532149</td>
<td>0.1731243</td>
<td>1.000</td>
<td>0.1696587</td>
</tr>
<tr>
<td>sqrCSFFQ</td>
<td>0.0629082</td>
<td>0.6239488</td>
<td>0.1696588</td>
<td>1.000</td>
</tr>
</tbody>
</table>

*Note.* *terms close to +1 or -1 are assumed to be linearly correlated. MEIM= Multigroup Ethnic Identity Scale; DEAS= Disordered Eating Attitude Scale; BES= Binge Eating Scale; CSFFQ= Culture Specific Food Frequency Questionnaire; Block FFQ= Block Food Frequency Questionnaire.

**Outliers.** Regression analyses often present with several data points that disproportionately effect the slope of the regression equation. However, in this study none of the regression analysis showed significant outliers, therefore no significant outliers were discovered or eliminated.

**Regression Data Analysis**

Does strong ethnic identity and culture specific diet contribute to binge eating behaviors in African American women?

The null hypothesis indicated no significant relationship between ethnic identity and culture specific food to binge eating in African American women. Thus, the alternative hypothesis indicated a significant relationship between ethnic identity and culture specific food to binge eating in African American women.
This primary research question reflects the final model results. When looking at the model as a whole \( p = 0.02104 \), culture specific diet (CSFFQ) and ethnic identity (MEIM), do significantly predict binge eating behaviors \( F(2, 135) = 3.974, p < .05 \) (See Table 5). This indicates that high levels of ethnic identity and high frequency of consuming culture specific foods contribute to binge eating. Ethnic identity (MEIM) scores appear to be weakly directly related to culture specific diet and binge eating behaviors. While ethnic identity is weakly significant \( p = .06 \), there is evidence suggesting a possible positive relationship to binge eating. Because ethnic identity estimate scores \( 0.31 \) were positive, based on slope estimates with the entire model being statistically significant \( p = .02 \), as ethnic identity scores increase it is probable that binge eating scores would also increase. Finally, the multiple R-squared at \( .0556 \) and adjusted R-squared at \( .04161 \) reveal a relatively low effect size.

Participants reported an average CSFFQ score of 10.47 \( (SD = 6.84) \) indicating an average level of consumption of culture specific foods. Also, participants average binge eating score was 9.31 \( (SD = 6.96) \), indicating low diagnostic binge behaviors. Culture specific diet (CSFFQ) scores were the most significant predictor of binge eating (BES) behaviors \( p = .046 \). This suggests that a diet high in culture specific foods is a direct contributor to binge eating behaviors.
Table 6

*Parameter Estimates and Significance Test*

|       | Estimate | Std. Error | t value | Pr(t>|t|) |
|-------|----------|------------|---------|----------|
| MEIM  | 0.31861  | 0.17438    | 1.827   | 0.0699   |
| CSFFQ | 0.19540  | 0.09715    | 2.011   | 0.0463*  |

*Note. MEIM= Multigroup Ethnic Identity Scale; DEAS= Disordered Eating Attitude Scale; BES= Binge Eating Scale; CSFFQ= Culture Specific Food Frequency Questionnaire; Block FFQ= Block Food Frequency Questionnaire. *p< .05

How does ethnic identity influence restrictive and compensatory disordered eating behaviors?

The null hypothesis indicated no significant relationship between ethnic identity and restrictive and compensatory eating behaviors. Thus, the alternative hypothesis indicated a significant relationship between ethnic identity and restrictive and compensatory eating behaviors.

Regression analysis showed no significant relationship between ethnic identity and restrictive and compensatory eating behaviors $F(8, 133) = .882$, $p > .05$. Subscale 3 of the DEAS assesses more traditional disordered eating behaviors (restriction, purging, over exercise) and no statistical significance was found. Therefore, the women with a strong sense of ethnic identity are less likely to engage in disordered eating of a restrictive or compensatory nature. The R-squared value of .05038 and $p$ value of .5335 indicates the proportion on variation due to this factor (restrictive or compensatory eating) was relatively
small and statistically insignificant. This finding supported what is currently in the literature as well as the research hypothesis.

What are the dietary intake and food preparation styles of African American women? How does this relate to any disordered eating behaviors?

The null hypothesis indicated no significant relationship between dietary intake and food preparation styles on disordered eating behaviors in African American women. Thus, the alternative hypothesis indicated a significant relationship between dietary intake and food preparation styles on disordered eating patterns among African American women.

Dietary intake was measured by the Block Food Frequency Screener. Culture specific foods were measured by the CSFFQ. There was some overlap in food items found on both food frequency questionnaires, such as fried chicken and beef or pork. Additionally, both food frequencies represent calorie dense foods.

Both the Block and the CSFFQ presented participants with food items in frequency categories of 0-4, with each frequency given a numeric value; 1 month or less=0; 2-3 times a month=1; 1-2 times a week=2; 3-4 times a week=3; 5 times a week or more. Food items most frequently consumed from the Block inventory included cheese, chips, eggs, beef/pork, cold cuts, fried chicken, bacon, and salad dressing. Due to the categorical nature of the items on the questionnaire, means and standard deviations of each food item could not be determined, however, food items were presented in frequency graphs. The average score on the Block food frequency questionnaire was 22.44 (SD=10.28) indicating high fat intake (over 35% of caloric intake).
Also, fried chicken, beef/pork, and hot dogs were food items (Block FFQ) related to disordered eating. Fried chicken was significantly related to DEAS scores, $F(4, 137) = 3.878$, $p < .05$ with a multiple R-squared of .1017. Beef/pork food items were significantly related to DEAS scores, $F(4, 137) = .2472, p < .05$ with a multiple R-squared of .06732. Hot dogs were significantly related to BES scores, $F(4, 137) = 3.765, p < .05$ with a multiple R-squared of .09904.

Next, food preparation style was primarily based on whether food was prepared with pork. Food preparation assessment was also based on whether food was prepared fried (chicken), or cooked with margarine. No significant relationship was found between CSFFQ question 8 (Do you prepare food with pork) and DEAS data, $F(4, 136) = .4069, p > .05$ with a multiple R-squared of .01183. Likewise, no significant relationship was found between CSFFQ question 8 (Do you prepare food with pork) and BES data, $F(4, 136) = 1.053, p > .05$ with a multiple R-squared of .03004.

Ancillary analysis was conducted to determine possible relationships between disordered eating and other food preparation styles such as preparing food fried and preparing food with butter/margarine. No significant relationship was found between preparing food with margarine and DEAS data, $F(4, 137) = .2702, p > .05$ with a multiple R-squared statistic of .03678. Likewise, no significant relationship was found between preparing food with butter/margarine and BES scores, $F(4, 137) = .69, p > .05$ with a multiple R-squared statistic of .01975.
However, a significant relationship was found between DEAS data and fried chicken preparation, \( F(4, 137) = 3.878, p < .05 \). A multiple R-squared of .1017 indicates a slightly weaker effect size. See Figure 18. However, this suggests that chicken that is fried, as opposed to prepared in a different form, accounts for approximately 10% of the variance in restrictive or compensatory disordered eating. Clearly, food preparation style is a noteworthy component of diet and a possible contributor to disordered eating. Future research is needed to determine the generalizability to all fried foods and reexamine effect size. Figures 9 through 20 present frequencies of most commonly eaten foods from the Block FFQ and the CSFFQ.
0= 1 month or less; 1= 2-3 times a month; 2= 1-2 times a week; 3= 3-4 times a week; 4= 5 times a week or more.

**Figure 9** Block FFQ: Cheese
0 = 1 month or less; 1 = 2-3 times a month; 2 = 1-2 times a week; 3 = 3-4 times a week; 4 = 5 times a week or more.

Figure 10 Block FFQ: Chips
0= 1 month or less; 1= 2-3 times a month; 2= 1-2 times a week; 3= 3-4 times a week; 4= 5 times a week or more.

Figure 11 Block FFQ: Eggs
0 = 1 month or less; 1 = 2-3 times a month; 2 = 1-2 times a week; 3 = 3-4 times a week; 4 = 5 times a week or more.

Figure 12 Block FFQ: Beef or Pork
Cold Cuts

0= 1 month or less; 1= 2-3 times a month; 2= 1-2 times a week; 3= 3-4 times a week; 4= 5 times a week or more.

Figure 13 Block FFQ: Cold Cuts
0= 1month or less; 1= 2-3 times a month; 2= 1-2 times a week; 3= 3-4 times a week; 4= 5 times a week or more.

**Figure 14 Block FFQ: Fried Chicken**
0= 1 month or less; 1= 2-3 times a month; 2= 1-2 times a week; 3= 3-4 times a week; 4= 5 times a week or more.

**Figure 15 Block FFQ: Bacon**
0= 1 month or less; 1= 2-3 times a month; 2= 1-2 times a week; 3= 3-4 times a week; 4= 5 times a week or more.

Figure 16 Block FFQ: Salad Dressing
0 = 1 month or less; 1 = 2-3 times a month; 2 = 1-2 times a week; 3 = 3-4 times a week; 4 = 5 times a week or more.

Figure 17 Block FFQ: Prepare Food with Pork
Note. MEIM= Multigroup Ethnic Identity Scale; DEAS= Disordered Eating Attitude Scale; BES= Binge Eating Scale; CSFFQ= Culture Specific Food Frequency Questionnaire; Block FFQ= Block Food Frequency Questionnaire.

Figure 18 Boxplot of DEAS and frequency of consuming Fried Chicken
Note. MEIM = Multigroup Ethnic Identity Scale; DEAS = Disordered Eating Attitude Scale; BES = Binge Eating Scale; CSFFQ = Culture Specific Food Frequency Questionnaire; Block FFQ = Block Food Frequency Questionnaire.

Figure 19 Boxplot of DEAS and frequency of consuming Beef/Pork
Note. MEIM= Multigroup Ethnic Identity Scale; DEAS= Disordered Eating Attitude Scale; BES= Binge Eating Scale; CSFFQ= Culture Specific Food Frequency Questionnaire; Block FFQ= Block Food Frequency Questionnaire.

**Figure 20 Boxplot of Binge Eating on frequency of consuming Hot Dogs**

What types of culturally specific foods are African American women eating? How does this relate to ethnic identity levels and disordered eating behaviors?

The null hypothesis indicated no relationship between culture specific food and ethnic identity on disordered eating behaviors. Thus, the alternative hypothesis indicated a significant relationship between culture specific food and ethnic identity on disordered eating.
Culture specific foods were measured by the CSFFQ using the same frequency ranges as the Block (0-4, with each frequency given a numeric value; 1 month or less = 0; 2-3 times a month = 1; 1-2 times a week = 2; 3-4 times a week = 3; 5 times a week or more). The most frequently consumed culturally specific foods included fried chicken, beans, and rice. Due to the categorical nature of the items on the questionnaire, means and standard deviations of each food item cannot be determined, however food items were presented in frequency graphs.

Certain culture specific foods presented statistically significant relationships with disordered eating, both restrictive/compensatory as well as binge eating. Culture specific foods proved weakly statistical significance with ethnic identity ($p = .06$), however slope estimates indicate a positive relationship. Conceptually it would appear that ethnic identity would be related to culture specific foods, as food is a large component of culture. The role of ethnic identity is ambiguous in the disordered eating literature, in part due to the difficulty in precisely measuring such a convoluted construct. Further research is warranted regarding the specific role of ethnic identity as it relates to disordered eating.

Fried chicken ($p = .005$) and pork BBQ ($p = .0009$) were culture specific foods that proved to be most significant to disordered eating. A statistical relationship was found between DEAS scores and fried chicken $F(4, 137) = 3.8776, p < .01$ (See Table 4.0). Although fried chicken reached statistical significance, when looking at the boxplots the means have no clear pattern indicating possible low practical significance. Also, multiple R-
squared of .1017, indicating a low effect size with fried chicken accounting for about 10% of the variance.

However, fried chicken proved statistically significant as a food item on both the Block (p=.005) and CSFFQ (p=.005) as well as a significant food preparation style contributing to disordered eating. Therefore, fried chicken is clearly a relevant food item in regards to African American diet. Further research on the role of this food item in the diet of African American women is warranted.

Although pork BBQ was not the most frequently consumed culture specific food, it proved highly significant in regards to disordered eating. The strongest practical and statistical significance was found between binge eating scores and pork BBQ, \( F(4, 137) = 4.922, (p < .001) \). Pork barbecue also accounted for the largest effect size, with multiple R-squared at .1257, accounting for approximately 13% of the variance. Boxplots depicted clear patterns with frequency categories of consuming pork 1(2-3 times per month) and 2 (1-2 times per week) indicating higher binge eating scores for those categories. (Figure 21).

Both fried chicken and pork were related statistically significantly to disordered eating in the Block and CSFFQ measures. Moreover, hot dogs which are traditionally in the form of pork \( (p = .0061) \) effected binge eating according to the Block Food Screener data. This finding supports that pork in any form may contribute to binge eating, however further research is warranted focusing on the role of pork in binge eating. No statistical relationship was found between ethnic identity and pork BBQ \( (p = .3206) \), however historically pork has
been a food highly associated with diets of people of African descent (Durks & Duran, 2001).

**Figure 21 CSFFQ: Fried Chicken**

0 = 1 month or less; 1 = 2-3 times a month; 2 = 1-2 times a week; 3 = 3-4 times a week; 4 = 5 times a week or more.
Figure 22 CSFFQ: Rice

0= 1 month or less; 1= 2-3 times a month; 2= 1-2 times a week; 3= 3-4 times a week; 4= 5 times a week or more.
Figure 23 CCFFQ: Beans

0= 1 month or less; 1= 2-3 times a month; 2= 1-2 times a week; 3= 3-4 times a week; 4= 5 times a week or more.
How do varying demographics (age, occupation, income level, education level, weight, parental status) relate to ethnic identity, diet, and disordered eating behaviors?

The null hypothesis indicated no significant relationship between varying demographics and ethnic identity, diet, and disordered eating behaviors. Thus, the alternative hypothesis indicated a significant relationship between varying demographics and ethnic identity, diet, and disordered eating.

The sample demographics were diverse and interactive. A variable selection analysis based on Akaike Information Criterion (AIC) was used to determine the most significant
demographics. The AIC weighs significance by extracting the most important predictors that contribute to the model (Burnham & Anderson, 2002). Demographics were analyzed in relation to their significance to scores on the MEIM, CSFFQ, Block, DEAS, and BES. The most significant demographics included education, occupation, weight, and marital status. Education proved to be a significant demographic for predicting diet and ethnic identity.

Participants with higher educational levels had lower scores on the Block \( F(6, 125) = 2.9299, p < .05 \) and CSFFQ; \( F(6, 125) = 3.4762, p < .01 \). Additionally, higher levels of education related to higher ethnic identity scores \( F(6, 131) = 2.648, p < .05 \). Women with only a high school diploma or some college had lower mean ethnic identity scores than women with college degrees or higher. A multiple R-squared value of .1082, indicated education accounting for approximately 10% of the variance among ethnic identity.

Education had a more significant influence on culture specific food, with a multiple R-squared of .148, indicating education accounts for approximately 15% of variance among culture specific diet. Education accounted for less influence on diet based on the Block FFQ, with an R-squared of .123. This indicates that education accounts for approximately 12% of the variance of diet based on the Block FFQ.

Occupation, weight, and marital status were the most significant demographics in predicting disordered eating behaviors. Occupation and weight were the most significant predictors for DEAS scores \( F(7, 128) = 2.4703, p < .05 \) and \( F(5, 128) = 2.9477, p < .05 \). Marital status was a significant predictor of binge eating \( F(4, 119) = 4.3611, p < .001 \). Income and marital status presented a significant interaction effect with binge eating \( F(20, 116) = \)
2.643, \( p < .001 \). The multiple R-squared of this interaction was .3131, indicating the
demographic interaction accounted for approximately 31% of the variance in binge eating.

It appears that being in a certain status group (married, single, widowed, domestic
partnership, divorced, etc.) effects how binge eating relates to income. Married women with
higher incomes have lower binge eating scores than widowed women with higher incomes.
Although significant, the effect size is relatively low at .108, indicating that education level
as a factor accounts for about 10% of variation among ethnic identity scores. Due to
relatively small sub-samples in each status group, further research is needed to better
understand the interaction between status and income on disordered eating.
Note. MEIM= Multigroup Ethnic Identity Scale; DEAS= Disordered Eating Attitude Scale; BES= Binge Eating Scale; CSFFQ= Culture Specific Food Frequency Questionnaire; Block FFQ= Block Food Frequency Questionnaire.

Figure 25. Boxplot of MEIM on Education Levels

Ancillary data

After conducting the primary multivariate regression analysis, an Analysis of Variance (ANOVA) was conducted to better understand food preparation styles as well as significance of various foods in relation to each factor (MEIM, BES, DEAS, CSFFQ, Block FFQ). The initial food preparation style focused solely on preparing food with pork, however after conducting the research additional food preparation styles became of interest. Other factors included preparing food with butter/margarine, preparing chicken fried, and preparing
food with pork. Analysis of variance showed no significant model for food preparation in relation to disordered eating F(4, 137)= .69, p > .05.

Finally, an in succession analysis of variance itemized the significance of each factor, particularly categorical variables with multiple levels. The analysis of variance supported the regression analysis, however allowed the researcher to compare each food item by level against each factor. Observed meaningful relationships included fried chicken and DEAS scores and pork and BES scores. Pork in multiple forms contributed to binge eating scores on multiple assessments. Pork food items were both statistically and practically significant in drawing conclusions regarding disordered eating. The effect size of pork barbecue proved slightly higher with ANOVA, with eta squared at .144 or 14% of the variance accounted for by this factor.
Table 7

*Analysis of Variance of Block and CSFFQ on MEIM, DEAS, BES scores*

<table>
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<tr>
<th>Food Item</th>
<th>MEIM</th>
<th>DEAS</th>
<th>BES</th>
<th>( \eta )</th>
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<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
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<td>2.5093</td>
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<td>2</td>
<td>4.0788</td>
<td>78.5135</td>
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</tr>
<tr>
<td>3</td>
<td>4.2976</td>
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</tr>
<tr>
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<tr>
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<td>0.158</td>
<td>.1017</td>
</tr>
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<td>Hot dogs</td>
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<td></td>
<td></td>
</tr>
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</tr>
<tr>
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<td>77.0893</td>
<td>2.8002</td>
<td></td>
</tr>
<tr>
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<td>4.1957</td>
<td>76.0435</td>
<td>3.5903</td>
<td></td>
</tr>
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<td>0.3333</td>
<td>0.0061**</td>
<td>.0999</td>
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<tr>
<td>beef/pork</td>
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</tr>
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<td>4.177</td>
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<td>4.0788</td>
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<td>p-value</td>
<td>0.6088</td>
<td>0.0322*</td>
<td>0.158</td>
<td>.1017</td>
</tr>
</tbody>
</table>

Note. MEIM= Multigroup Ethnic Identity Scale; DEAS= Disordered Eating Attitude Scale; BES= Binge Eating Scale; CSFFQ= Culture Specific Food Frequency Questionnaire; Block FFQ= Block Food Frequency Questionnaire. Table 3.0 represents the average response per level including p values for significant differences. 0= 1 month or less; 1= 2-3 times a month; 2= 1-2 times a week; 3= 3-4 times a week; 4= 5 times a week or more. *p< .05, **p< .01

Summary

This chapter presented the results of the multivariate regression analysis and analysis of variance used to determine the relationships between diet and ethnic identity on disordered eating in African American women. The best fit model determined culture specific food and
ethnic identity as the best predictors of binge eating. Culture specific diet was the strongest predictor of binge eating, with ethnic identity only a moderately significant predictor of binge eating. High frequency food items were identified as well as relevant food preparation styles. Specific food items such as pork BBQ proved to be related to binge eating behaviors and fried chicken proved related to restrictive and compensatory behaviors. The results highlighted the value in exploring how disordered eating patterns manifest differently in African American women. Counseling professionals could benefit from further exploration of how these differences impact the wellbeing of African American women.
CHAPTER V

Discussion

The purpose of this study was to investigate the role of diet and ethnic identity in disordered eating among African American women. The study sought to add to the counseling literature regarding: (a) a better understanding of disordered eating, particularly binge eating in African American women; (b) the diet, particularly culture specific diet from a historical standpoint; and (c) the role of ethnic identity in regards to binge eating. The findings of this study provide a foundation for additional quantitative and qualitative research focused on the relationship of diet and ethnic identity among African American women. In addition, the findings offer a foundation for developing effective mental health and dietary treatment interventions for African American women. This chapter includes: (a) a summary and synthesis of the findings; (b) generalizations and limitations of the findings, and (c) implications for practice and recommendations for future research.

Summary of Objectives

This investigator sought to answer the following research questions: (a) Does strong ethnic identity and culture specific diet contribute to binge eating behaviors in African American women? (b) How does ethnic identity influence restrictive and compensatory disordered eating behaviors? (c) What are the food preparation styles and dietary intake of African American women? How does this relate to any disordered eating behaviors? (d) What types of cultural specific foods are African American women eating? How does this relate to ethnic identity levels and disordered eating behaviors? (e) How do varying
demographics (age, income level, education level, BMI, parental status) relate to ethnic identity, diet, and disordered eating behaviors?

**Clinical Model**

This study explored a model for understanding binge eating in African American women. Ethnic identity and culture specific diet proved to be a significant clinical model for predicting binge eating behavior. This finding is significant because it refutes much of the current body of literature (Arriaza, & Mann, 2001; Smolak, & Striegel-Moore, 2001). Ethnic identity has been described in the literature as a mitigating factor for disordered eating, however, the data in this study suggested the opposite. Strong ethnic identity along with consuming high levels of culture specific food can in fact contribute to binge eating.

The findings of the study are significant because they aid in diagnosis and treatment of African American women with disordered eating. This study focused on a subclinical sample of women, many of which presented with disordered eating behaviors. It is important that women are educated by clinical and medical professionals regarding the differences between overeating, binge eating, disordered eating, and eating disorders. Using appropriate diagnostic language is essential because it captures the depth and breadth of the problem. Even if clinical criteria are not met for an eating disorder, women who present with disordered and dysfunctional eating patterns need treatment to avoid a full blown diagnosis. Finally, binge eating needs to be articulated as a pathology, not just a physical concern but also a mental health concern.
Ethnic Identity

This model is significant because it challenges the perception of disordered eating and who it affects. African American women are now in the conversation regarding disordered eating. The topic of eating issues among women of color has greatly evolved from Becker (1993) questioning the existence of eating disorders among non-European women, to Bower (1999) questioning the scarcity of research with women of color. Bower (1999) stated that research must contextualize black female hunger by asking “how the widespread association of black women with food in U.S. culture has coexisted with a seeming paucity of discourses about what African American women eat” (p. 185).

Participants in the study reported high levels of ethnic identity according to MEIM data. Ethnicity is an interesting construct because it often impacts many other variables that may influence food and body image. Additionally, those that are uninformed may equate ethnicity to race when completing instruments such as the MEIM. The challenges faced by African American women, are due largely in part to the historical social strains and agricultural makeup of race relations in America. The slave trade effected numerous countries, however their current social dynamic and diets may be vastly different from Blacks in America.

Research continues to support that women residing in cultures that value thinness are at greater risk for developing eating problems (Rosen, 1990). However, these eating problems may not manifest themselves in an anorexic fashion. Considering culture, race, and ethnicity in the discussion of disordered eating adds new dimension to the typical Western
idea of eating disorders. Challenges faced by African American women surrounding food and weight, are becoming quite obvious. These concerns are deserving of appropriate research, diagnosis, and treatment.

**Diet and Food Preparation**

The role of diet in the lives of African American women from a historical perspective was examined in this study. The results of the study highlighted the vital role of diet in regards to disordered eating. It is important that clinicians understand the power food holds and how food operates in the lives of African American women. Exploring the role of diet is important especially for African Americans, as food offers a microcosm of how cultures and subcultures operate (Bower, 2009). Food satiates, nourishes, and sustains life; food provides jobs and sustains economies; food elevates or lowers mood (Dunne, 2012); and food can be used as a tool to oppress disenfranchised groups. However, food can be a universal unifier, as eating is perhaps the most universal way cultures commune and celebrate with each other.

Specific to African American history, food has played a central role in culture. The culture of the African American diet presents as an amalgamation of European, African, and American cultural influences with the exigencies of the slave experience (Bower, 2009). Commensality, the act of eating together, has been said to define the limits of a group’s culture. African American families have historically been denied the privilege of commensality, therefore fragmenting their relationships with themselves, family, and food. Particularly in the American South, African Americans and Caucasian Americans did not eat
together. It was therefore no accident that the civil rights movement of the 1960s began with lunch-counter sit-ins (Bower, 2009).

Food played a pivotal role in culture, power, and identity formation for African American women. How persons fuel their bodies is extremely telling of their lifestyle, status, and psychology. In this study, diet data exposed a host of information regarding African American women. African American women consumed high levels of high fat foods according to the Block food frequency questionnaire and moderate levels of culture specific foods (which are often high in fat) according to the CSFFQ.

These scores correlated with high BMI ranges of participants as well. Food items from the Block included fried chicken, beef/pork, hot dogs, and dressing that were each associated with disordered eating. Fried chicken, beef/pork, and dressing were associated with restrictive or compensatory disordered eating (DEAS) while hot dogs were associated with binge eating (BES). Significance among overlapping food items (fried chicken, pork) on each inventory showed clear patterns of both statistical and practical significance. This finding supports diet as a stronger predictor of disordered eating than ethnic identity.

Furthermore, particular foods proved to trigger different types of disordered eating behaviors in African American women. A condiment such as dressing was a significant predictor for restrictive or compensatory eating behavior. Type of salad dressing (Ranch, French, Italian, Blue Cheese, etc.) was not addressed. Such information would have been helpful in drawing more observations about this food item. However, dressings may
Contribute to disordered eating because they often supplement foods such as, salads, vegetables and chicken. Salads and vegetables are typically regarded as healthier food items.

Moreover, it is plausible that when eating lower calorie foods (such as salad or vegetables), women may feel entitled to eat in excess and may compensate for overeating via symptom use. Furthermore, dressings, particularly ranch or blue cheese are also often used with chicken, particularly fried chicken wings. Perhaps pairing a condiment and a food item that are both related to disordered eating creates higher likelihood for women to feel compelled to binge eat and/or compensate for binge eating.

Culture specific diet was a subset of diet unique to this study. Culture specific food was measured by the CSFFQ. The average score on the CSFFQ was 10.47, indicating average levels of soul food consumption (SD= 6.84). Results showed fried chicken, rice, and beans as the most frequently consumed culture specific food. Fried chicken was a food item that overlapped on both the Block and the CSFFQ. Fried chicken and pork barbecue were statistically significant to disordered eating. It is interesting that fried chicken and pork barbecue were the two food items associated with disordered eating, as they have long standing histories with African Americans.

Culture specific foods such as barbecue and chicken have embedded associations that reveal group identities. Slaves were given the undesirable and least nutritious parts of the pig, followed by reconstruction era imagery that included African Americans with chickens, an animal known for being low on the food chain. These types of images speak to how power can be displayed even in the most mundane of objects.
A significant relationship between pork barbecue and binge eating was found in the present study. The significance relationship of pork barbecue \( (p = 0.0002618) \) to binge eating is one of the premiere findings of the study, considering the disproportionate impact of BED on African Americans. Additionally, the effect size of pork barbecue was higher using ANOVA instead of regression, indicating a higher variance accounted for by this food item. Practically, physical implications for eating pork in excess, such as high blood pressure, have long been documented. However, the present findings suggest the relationship between pork and a mental disorder (BES).

Pork is also significant because it is eaten in multiple forms and is often used to prepare other foods. Historically the presentation of eating pork (pig pickings) may be conducive to overeating, in its free for all nature. This presentation of pork has been sustained over time. Bower (2009) states, “the history of slavery includes barbecue and malnutrition…This remains part of Black ideology” (p.70).

Pork is also a significant food due to its intersection with spirituality. Both Christianity and Islam cite pork as an unclean food. Many slaves were Muslim, therefore eating pork was another layer of oppression, as they were forced to violate their value system for survival. The biblical uncleanliness of pork may be related to the fact that pigs consume anything alive, sick, or dead, making them a breeding ground for potentially dangerous infections. Research shows that even after prolonged cooking of pork, many retroviruses and parasites still remain in the meat (CDC, 2011).
Following, like food consumption, food preparation matters. Variations in food preparation can transform a dish as well as our experience of eating it. Food preparation styles were minimally explored in the present study. Analysis of variance of multiple factors of food preparation did not prove statistically significant. Further research is needed to uncover identifiable models of food preparation and their impact on eating behaviors, whether healthy or disordered. Additional food preparation methods of interest for future research include cooking with oils, broths, spices, herbs, spirits, and other food enhancers.

Historically, food preparation has been important for African American women. Food preparation allowed for an enormous range of cultural influence and creativity. Bower (2009) stated that, “it was the preparation of food that African Americans made the greatest contribution according to all accounts of early southern foodways” (p. 94). Furthermore, because Africans from hundreds of tribes were brought to America, there developed a slave culinary infusion.

Food preparation and consumption is particularly important in relation to gender roles. Heinberg and Thompson (1994) stated, “appetites and food take on metaphorical significance in a society in which women typically are responsible for food preparation and yet are taught to deny themselves ample appetites” (p. 5). The reality of disordered eating among all women is unsettling. Nurturing others has long been an identifiable role for women, however, a new cultural milieu of women struggling to nurture themselves presents itself now. This presents dangers to society, as women are the givers of life. Food restrictive disorders often halt menses, not allowing women to conceive. Inversely, binge eating
disorders often result in weight gain, an additional barrier to conception as well as threatening to decrease one’s life span.

In this study, food preparation style was assessed primarily based on preparing food with pork. Additionally, food preparation was assessed based on whether women fried food (chicken), or cooked with margarine. No significant relationship was found between CSFFQ question 8 (Do you prepare food with pork?) and DEAS data. As well, no statistical relationship was found between preparing food with margarine and DEAS data.

A statistically significant relationship was found between DEAS and fried chicken preparation. This suggested that chicken that is fried, as opposed to prepared in a different form, contributes to restrictive or compensatory disordered eating. It is evident that food preparation style is a noteworthy component of diet contributing to disordered eating.

**Demographics**

Occupation, relational status, weight, and education appeared to be the most salient demographics in this study. Education was a significantly related to diet and ethnic identity. Women with higher education had lower overall Block scores indicating less fat intake in their diets. Additionally, women with higher education (college degree or higher) also reported higher ethnic identity scores. This would seem plausible, as education encourages individuals to ponder their identity and social positioning. Moreover, education shapes how individuals interact socially and is typically associated with higher incomes. Knowledge of nutrition and health coupled with economic means to purchase healthier foods may translate into healthier eating and decrease overall fat consumption.
Furthermore, occupation, weight, and marital status were significant predictors of disordered eating. Occupation and weight were significantly related to restrictive or compensatory disordered eating behaviors. Marital status was significantly related to binge eating behaviors, and there was a significant interaction effect between income and marital status. Occupation and weight presented a significant relationship, however, presented no clear pattern of direction. The majority of women (63%) worked full time, and the average weight class (27%) of women were 200lbs or over.

Marriage appeared to have a buffering effect on binge eating, as single or widowed women with high incomes presented with higher binge eating scores than married women with high incomes. Perhaps married women have the additional support of a secondary income, thereby decreasing economic stress and mitigating binge eating as a coping skill.

**Restrictive and Compensatory Disordered Eating**

No significant statistical relationship was found between ethnic identity and restrictive or compensatory eating behaviors. This finding supports what is currently in the literature as well as the research hypothesis. Previous research has shown on average that African American women restrict and purge exclusively at lower rates than European American women (Gordon, Castro, Sitnikov, & Holm-Denoma, 2010). Although African American women present these symptoms at lower rates, anorexia and bulimia are still found in African American communities.

Previous research has also focused primarily on restrictive and compensatory behaviors such as eating minimal calories, not eating at all, or purging as a means to alter
body image. Other compensatory behaviors such as chronic over exercise or laxative use are often symptoms overlooked in research among African American women.

**Future Research**

Future research focusing on multiple variables influencing disordered eating is necessary to better understand the construct. First, the influence of ethnic identity deserves further exploration, as current research is contradictory on the influence of ethnic identity and disordered eating. It is necessary to reexamine how ethnic identity as a construct is operationalized as well as investigate the interplay of race and ethnicity to disordered eating. Future international research could focus on groups of Black women with a variety of ethnicities to untangle variations between race, ethnicity, diet, and disordered eating.

Gilbert, Crump, Madhere, & Schutz (2009) were among the first to explore a diverse sample of women of African descent who were raised in different parts of the world. Higher rates of eating pathology were found in Black South Africans than in any previous research on this population. Body dissatisfaction and bulimic behaviors were found in Black Caribbean women, an area also heavily involved in the Trans-Atlantic slave trade. Although this research is valuable, it does not explore the role of diet. Future research tailored to exploring disordered eating and diet among international women of African descent is needed to better understand the role of ethnicity.

This study began exploring the topic of culture specific food in a mental health context. The relationship between culture specific diet to disordered eating needs further investigation. Additionally, psychometric data are needed to validate the CSFFQ as a
legitimate tool for assessing culture specific diets. Culture specific diet was specific to African American diet in this study. However, additional inventories to assess diets of other cultural groups would be beneficial when investigating disordered eating in other populations.

Future research focusing on the interplay between restriction/compensation and binge eating is warranted. It may be that restriction or compensation manifests differently in African Americans than their European American counterparts. It is likely that African American women engage in restriction or compensation of some type, however, it may not be their primary symptom. It is also likely, that African American women may restrict and then later enter into a binge, as they set themselves up physiologically to overeat. Moreover, as the diagnosis of BED continues to evolve, it is likely that future DSM editions will include subcategories of BED that include purging or restrictive subtypes.

Further research is needed to better understand the relationship between food preparation styles and disordered eating. This study found that chicken that was prepared fried was related to restrictive and compensatory disordered eating behaviors. Future research is needed to determine the generalizability of disordered eating to all fried foods. Also, other food preparation styles should be explored to determine a model for food preparation and disordered eating.

Next, further research is needed to better understand the relationship between binge eating and pork barbecue. This study found pork barbecue to be statistically significant to binge eating, with a respectable effect size. Although participants in this study did not rate
pork consumption significantly high, pork may be a food that does not need to be consumed regularly to contribute to binge eating. Future research can be focused on how properties of pork, cooking temperatures, and consuming various parts of the animal itself (intestines versus leg) may contribute to hormones triggering binge eating.

Additionally, pork barbecue is prepared differently based on regional preferences. Typically, pork barbecue is vinegar based in the south and ketchup based in the north. There also exist regional variations in eastern versus western North Carolina. This study was conducted in the south and it is reasonable to assume that most participants consume vinegar based barbecue. Future research is needed to determine if variation in preparation effect binge eating behaviors.

Further research on the interplay of various demographics may be important. These demographic differences constantly effect women’s day to day lives, and could prove as important, if not more important than diet or ethnic identity. Further research is needed to determine the directionality of occupation and weight on restrictive and compensatory eating behaviors. This interaction between income and marital status is fascinating, and further research is recommended to better understand the dynamics between income and status on diet.

Moreover, dietary changes are clearly important, however it may present more challenges to alter more fixed aspects of one’s life such as occupation, marital status, income, or parental status than dietary intake. Occupation and income may dictate what food items women are able to purchase. Hines et al., 1999) found that ethnic minorities who live in
ethnic neighborhoods are more likely to maintain their cultural eating patterns and body image values, as they are reinforced by their surroundings. However, minorities who live in ethnically diverse areas are more likely to accept majority cultural norms. Occupation and income are highly important factors influencing living whereabouts, which in turn impact exposure to majority norms and potentially disordered eating.

Additionally, marital or parental status may present as a stressor or mitigating factor to diet and eating behaviors. Many of these demographics impact one another. For example, married women likely have a higher household income than single women. Also, women who are married or single with children may have less financial resources due to financial responsibilities associated with parenthood. Therefore further research focusing on demographic influences is necessary to better understand influences on disordered eating.

Disordered eating presents as a convoluted phenomenon. Clinicians are challenged to begin viewing disordered eating as a spectrum that often ebbs and flows. Although restriction or compensation may not be primary symptoms, they may be components of a mixed bag of symptom use. For example, the DSM V includes subcategories of both anorexia and bulimia. Anorexia, Purging Type is a diagnosis used to describe patients who primarily restrict intake, however, they do occasionally engage in purging behavior. Additionally, Bulimia, Restrictive Type is a diagnosis used to describe patients who primarily purge food, however, occasionally they also restrict their intake.

Finally, based on this study’s findings, it is recommended that future research focused on Binge Eating Disorder (BED) and Other Specified Feeding or Eating Disorder (OSFED)
to identifying significant predictors to strengthen the model. Factors such as depression, anxiety, occupation, income, and racial micro aggressions are potential predictors to capture more of the variance in disordered eating among African American women. Further research is recommended for focusing on both African American men and women to better understand the role of gender differences in subcultures with food disorders.

**Limitations and Generalizations**

Research is framed by the limitations and generalizability of the research design, scope of study, and findings. Therefore, identifying the limitations and generalizability of research helps future researchers, practitioners, and policy makers to determine the applicability of the study. Likewise, identifying limitations and generalizability gives researchers starting points for future research. This section discusses the limitations and generalizability of the study.

This study offered a foundational model for understanding binge eating in African American women. Although the findings supported some aspects of the model, only a small percentage of the variance was accounted for. Therefore, there are still many other factors that apparently account for variance in binge eating. Future research is recommended in order to construct a more comprehensive model for understanding binge eating. Additionally, this study offered a foundation for understanding food preparation styles among African American women. Further research is recommended to construct a comprehensive model of food preparation styles.
Additionally, low sample sizes for certain demographics such as women who were widowed, divorced, or in a domestic partnership was a limitation. Therefore it is difficult to make solid observations regarding those groups. While this data may have been statistically significant, there may lack real practical significance due to low sample sizes. Further research is recommended to determine relationships between ethnic identity, diet, and disordered eating among African American women who are widowed, divorced, or in domestic partnerships.

This study was delimited to African American females over 18 years old in the southeastern United States area who volunteered to participate in a self-report study. Participant survey responses and life circumstances may differ from other African American women beyond the southeastern U.S. area. Additionally, the research sample was conducted at predominantly African American Christian churches in the southeastern U.S. Over 90% of participants identified as Christian. As such, the findings from this study may not be applicable to non-Christian African American women.

**Implications for Counseling, Counselor Educators, and Policy Makers**

The findings begins the discussion of the significance of food from a clinical, cultural, and historical perspective. Comprehensive interventions are needed to impact change in the African American community. Results of the study highlight the need for considerable psychoeducation regarding food and culture and how they intersect with mental and physical health disparities. Psychoeducational interventions will help educate those who are not sufficiently well informed and enhance wellness in more educated communities.
Because culture specific food is a significant predictor of binge eating, it is important for African American women to understand the backdrop of many culture specific foods. This may enable them to make healthier decisions about how they fuel their bodies and feed their families. Psychoeducation involving the effects of the Atlantic slave trade may help women identify foods such as pork or fried chicken that lack nutrition, contribute to disordered eating, and have deep roots in subjugation of African Americans.

Also, psychoeducation can empower African Americans to embrace their ethnicity in many culture specific foods that have African roots. Bower (2010) described the bidirectional nature of influence in how ‘African’ all Americans are, remains hidden in the conventional assumption that, “under conditions of oppression, acculturation is a one-way street” (p.32). Interestingly, many foods indigenous to Africa were introduced to North America by slaves.

Many of these foods, such as yams, plantains, and other vegetables are more nutritious and still remain part of soul food cuisine. Interestingly, Bower (2010) described how early American economic success was heavily due to contributions of African slaves and their agricultural knowledge, particularly in the cultivation of rice. Slaves were often more familiar with the planting, hoeing, processing, and cooking of rice than the Europeans who purchased them. Interestingly, rice was the most frequently consumed culture specific food consumed by participants in the study.

Moreover, in addition to culinary and agricultural know how, slaves brought with them natural resources from Africa. According to slave ship records from the Arthur, the Elizabeth, and the Othello (Covey, 2009) foods such as yams, rice, plantains, peppers, and
palm oil were loaded onto slave ships as provisions for slaves during the Middle Passage journey, a trip that could take up to three months to complete. Slave ship captains began taking indigenous foods along with slaves, as they discovered more slaves successfully made the voyage when consuming indigenous foods (Bower, 2010).

Covey (2009) reports that yams were the most common African staple food fed to slaves on board the middle passage. The ship logs of the slave ship the Elizabeth (1754) bound for Rhode Island listed provisions of yams, plantains, cornbread, fish and rice. Accounts of the slave ship Othello (1768-69) listed hundreds of baskets of yams, limes, peppers, palm oil, and peanuts. Foods such as black eyed peas, watermelon, sesame seeds, okra, and hominy later followed and seeped into the culinary palate of North Americans (Covey, 2009).

Although many African Americans take pride in culture specific food, knowledge of the oppressive realities of the slave culinary experience is important for African Americans to prevent further self-degradation. Interventions focused on disordered eating among African American women must contain a strong psychoeducational component, clinical base, nutritional focus, and pragmatic foundation. The findings in this study indicated that diet is a stronger predictor of disordered eating than ethnic identity. Clinicians are encouraged to inquire about the types of foods women are consuming via food frequency scales and challenge them to enhance their diets.

Additionally, clinicians are encouraged to assess for comorbid disorders underneath the eating disorder. For example, women binging on foods high in carbohydrates may be
symptomatic of a mood disorder that would benefit from psychotropic medication. Likewise, food is often described as medicine by nutritional experts. Similar to medical interventions, patients will not benefit from help if they lack means to obtain their medications. Alike, psychoeducational interventions must provide community resources to link families with healthy foods that are affordable. Simultaneously, clinicians are encouraged to advocate for healthy foods at affordable prices to policy makers.

Furthermore, interventions targeting African American women should use the Strong Black Women (SBW) phenomenon, a subtheme of Black Feminist Theory (BFT) as a method to frame interventions for women to rethink their perception of strength (Harrington, Crowther & Shipherd, 2010). Interventions have the opportunity to help frame strong Black women in a healthier light. The historical model of Strong Black Women (SBW) has involved women struggling through life’s challenges with little support and heavy responsibility. Interventions can adopt a new model of SBW that empowers women to ask for help, delegate responsibility, and prioritize self-care.

Counseling professionals and future researchers may want to investigate: (a) the cultural appropriateness and effectiveness of current eating disorder treatments on African Americans; (b) how race, ethnicity, and racial microagressions influence body image and disordered eating; (c) the pervasiveness and continued effects of culture specific foods (particularly foods such as fried chicken and pork barbecue) on disordered eating and (d) how to develop best practice interventions integrating counseling, nutritional, and medical specialists targeted at African American women.
**Conclusion**

In conclusion, the following study set out to better understand disordered eating in African American women. Various forms of disordered eating were explored, with a focus on binge eating disorder. Furthermore, the study explored the role of diet and ethnic identity as it relates to disordered eating. Results showed a statistical relationship between ethnic identity and diet as predictors of binge eating in African American women. Culture specific diet proved to be a stronger predictor of binge eating. The study determined particular high fat and culture specific food items influencing disordered eating. Clinical implications, interventions, and future research options were discussed.
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APPENDICES
Appendix A

Multigroup Ethnic Identity Measure (MEIM)

In this country, people come from many different countries and cultures, and there are many different words to describe the different backgrounds or ethnic groups that people come from. Some examples of ethnic groups are Latino, African American, Mexican, Asian American, Chinese, and many others. These questions are about your ethnicity or your ethnic group and how you feel about it or react to it.

Please fill in: In terms of ethnic group, I consider myself to be ______________________

Use the numbers below to indicate how much you agree or disagree with each statement.

(5) Strongly agree  (4) Agree  (3) Neutral  (2) Disagree  (1) Strongly disagree

1- I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.

2- I am active in organizations or social groups that include mostly members of my own ethnic group.

3- I have a clear sense of my ethnic background and what it means for me.

4- I think a lot about how my life will be affected by my ethnic group membership.

5- I am happy that I am a member of the group I belong to.

6- I have a strong sense of belonging to my own ethnic group.

7- I understand pretty well what my ethnic group membership means to me.

8- In order to learn more about my ethnic background, I have often talked to other people about my ethnic group.

9- I have a lot of pride in my ethnic group.

10- I participate in cultural practices of my own group, such as special food, music, or customs.

11- I feel a strong attachment towards my own ethnic group.

12- I feel good about my cultural or ethnic background.
13- My ethnicity is:  
   (1) Asian or Asian American, including Chinese, Japanese, and others  
   (2) Black or African American  
   (3) Hispanic or Latino, including Mexican American, Central American, and others  
   (4) White, Caucasian, Anglo, European American; not Hispanic  
   (5) American Indian/Native American  
   (6) Mixed; Parents are from two different groups  
   (7) Other (write in): ____________________________________________

14- My father's ethnicity is (use numbers above)  

15- My mother's ethnicity is (use numbers above)
Appendix B

Disordered Eating Attitudes Scale (DEAS)

Disordered Eating Attitudes Scale (DEAS)

Part I: Please circle (a, b, c, or d) how healthy and necessary you consider consumption of each kind of food:

Sugar

(a) Eating this food often is healthy and necessary
(b) Eating this food occasionally is healthy and necessary
(c) Not eating this food is healthy and necessary

Oil

(a) Eating this food often is healthy and necessary
(b) Eating this food occasionally is healthy and necessary
(c) Not eating this food is healthy and necessary

Breads

(a) Eating this food often is healthy and necessary
(b) Eating this food occasionally is healthy and necessary
(c) Not eating this food is healthy and necessary

Rice

(a) Eating this food often is healthy and necessary
(b) Eating this food occasionally is healthy and necessary
(c) Not eating this food is healthy and necessary
Beans

(a) Eating this food often is healthy and necessary
(b) Eating this food occasionally is healthy and necessary
(c) Not eating this food is healthy and necessary

Pasta

(a) Eating this food often is healthy and necessary
(b) Eating this food occasionally is healthy and necessary
(c) Not eating this food is healthy and necessary

Red Meat

(a) Eating this food often is healthy and necessary
(b) Eating this food occasionally is healthy and necessary
(c) Not eating this food is healthy and necessary

Whole milk

(a) Eating this food often is healthy and necessary
(b) Eating this food occasionally is healthy and necessary
(c) Not eating this food is healthy and necessary

Cheese

(a) Eating this food often is healthy and necessary
(b) Eating this food occasionally is healthy and necessary
(c) Not eating this food is healthy and necessary
Vegetables
(a) Eating this food often is healthy and necessary
(b) Eating this food occasionally is healthy and necessary
(c) Not eating this food is healthy and necessary

Fruits
(a) Eating this food often is healthy and necessary
(b) Eating this food occasionally is healthy and necessary
(c) Not eating this food is healthy and necessary

White Meat
(a) Eating this food often is healthy and necessary
(b) Eating this food occasionally is healthy and necessary
(c) Not eating this food is healthy and necessary

Instructions: Please answer (a) YES or (b) NO:

1) Do you feel pleasure when you eat?
(a) YES  (b) NO

2) Does eating ever feel unnatural to you?
(a) YES  (b) NO

3) Have you ever spent one or more days without eating or having only liquids because you believed you could lose weight?
(a) YES  (b) NO

4) Do you count the calories of everything you eat?
5) Do you enjoy the feeling of an empty stomach?
(a) YES (b) NO

6) Do you skip meals to avoid putting on weight?
(a) YES (b) NO

7) Does eating make you feel “dirty?”
(a) YES (b) NO

8) Do you have good memories related to food?
(a) YES (b) NO

9) Would you like to not need to eat?
(a) YES (b) NO

10) Do you believe that it is normal to eat sometimes just because you are sad, upset or bored?
(a) YES (b) NO

11) When you eat more than usual, what is your behavior afterwards?
(a) Restart eating as usual
(b) Assume you have lost control and keep eating even more
(c) Decide to go on a diet to compensate
(d) Use some kind of compensation such as physical activity, vomiting, laxatives and diuretics.
Part II: Please circle a= always b=usually c= often d= sometimes e= rarely/never

12) I feel guilty when I eat something that I thought I should not eat for some reason.
   (a) Always  (b) usually  (c) Often  (d) Sometimes  (e) Rarely/Never

13) I quit eating a kind of food if I find out it has more calories than I thought.
   (a) Always  (b) usually  (c) Often  (d) Sometimes  (e) Rarely/Never

14) I worry all the time about what I am going to eat, how much to eat, how to prepare food and whether I should eat or not.
   (a) Always  (b) usually  (c) Often  (d) Sometimes  (e) Rarely/Never

15) I worry about how much a certain kind of food or meal will make me gain weight.
   (a) Always  (b) usually  (c) Often  (d) Sometimes  (e) Rarely/Never

16) I am angry when I feel hungry.
   (a) Always  (b) usually  (c) Often  (d) Sometimes  (e) Rarely/Never

17) It is hard to choose what to eat, because I always think I should eat less or choose the option with fewer calories.
   (a) Always  (b) usually  (c) Often  (d) Sometimes  (e) Rarely/Never

18) When I desire a specific kind of food, I know I won’t stop eating until I have finished with it.
   (a) Always  (b) usually  (c) Often  (d) Sometimes  (e) Rarely/Never

19) I would like to have my appetite and eating behavior under total control.
   (a) Always  (b) usually  (c) Often  (d) Sometimes  (e) Rarely/Never
20) I try eating less in front of others in order to overeat when I am alone.
   (a) Always   (b) usually   (c) Often   (d) Sometimes   (e) Rarely/Never

21) I am afraid to start eating and not be able to stop.
   (a) Always   (b) usually   (c) Often   (d) Sometimes   (e) Rarely/Never

22) I dream of a pill that would replace food.
   (a) Always   (b) usually   (c) Often   (d) Sometimes   (e) Rarely/Never

23) I get nervous and/or lose my self-control at parties and buffets, due to a great amount of food available.
   (a) Always   (b) usually   (c) Often   (d) Sometimes   (e) Rarely/Never

24) My relationship with food messes up my life as a whole.
   (a) Always   (b) usually   (c) Often   (d) Sometimes   (e) Rarely/Never
Appendix C

Binge Eating Scale (BES)

Instructions: Below are a group of statements. Read all of the statements in each group and circle the statement (a, b, c, or d) that best describes the way you feel about your eating behaviors.

1. (a) I don’t feel self-conscious about my weight or body size when I’m with others.
   (b) I feel concerned about how I look to others, but it normally does not make me feel disappointed with myself.
   (c) I do get self-conscious about my appearance and weight which makes me feel disappointed in myself.
   (d) I feel very self-conscious about my weight and frequently, I feel intense shame and disgust for myself; I try to avoid social contacts because of my self-consciousness.

2. (a) I don’t have any difficulty eating slowly in the proper manner.
   (b) Although I seem to “gobble down” foods, I don’t end up feeling stuffed because of eating too much.
   (c) At times, I tend to eat quickly and then, I feel uncomfortably full afterwards.
   (d) I have the habit of bolting down my food, without really chewing it. When this happens I usually feel uncomfortably stuffed because I’ve eaten too much.

3. (a) I feel capable to control my eating urges when I want to.
   (b) I feel like I have failed to control my eating more than the average person.
(c) I feel utterly helpless when it comes to feeling in control of my eating urges.
(d) Because I feel so helpless about controlling my eating I have become very desperate about trying to get in control.

4.  
   (a) I don’t have the habit of eating when I’m bored.
   (b) I sometimes eat when I’m bored, but often I’m able to “get busy” and get my mind off food.
   (c) I have a regular habit of eating when I’m bored, but occasionally, I can use some other activity to get my mind off eating.
   (d) I have a strong habit of eating when I’m bored. Nothing seems to help me break the habit.

5.  
   (a) I’m usually physically hungry when I eat something.
   (b) Occasionally, I eat something on impulse even though I really am not hungry.
   (c) I have the regular habit of eating foods that I might not really enjoy to satisfy a hungry feeling even though physically, I don’t need the food.
   (d) Even though I’m not physically hungry, I get a hungry feeling in my mouth that only seems to be satisfied when I eat a food, like a sandwich, that fills my mouth. Sometimes, when I eat the food to satisfy my hunger, I then spit the food out so I won’t gain weight.

6.  
   (a) I don’t feel any guilt or self-hate after I overeat.
   (b) After I overeat, occasionally I feel guilt or self-hate.
   (c) Almost all the time I experience strong guilt or self-hate after I eat.
7.  (a) I don’t lose total control of my eating when dieting even after periods when I overeat.
(b) Sometimes when I eat a “forbidden food” on a diet, I feel like I “blew it” and eat even more.
(c) Frequently, I have the habit of saying to myself, “I’ve blown it now, why not go all the way” when I overeat on a diet. When that happens I eat even more.
(d) I have a regular habit of starting strict diets for myself, but I break the diets by going on an eating binge. My life seems to be either a “feast” or a “famine.”

8.  (a) I rarely eat so much food that I feel uncomfortably stuffed afterwards.
(b) Usually about once a month, I eat such a quantity of food, I end up feeling very stuffed.
(c) I have regular periods during the month when I eat large amounts of food, either at mealtime or at snacks.
(d) I eat so much food that I regularly feel quite uncomfortable after eating and sometimes a bit nauseous.

9.  (a) My level of calorie intake does not go up very high or go down very low on regular basis.
(b) Sometimes after I overeat, I will try to reduce my calorie intake to almost nothing to compensate for the excess calories I’ve eaten.
(c) I have a regular habit of overeating during the night. It seems that my routine is not to be hungry in the morning but overeat in the evening.
(d) In my adult years, I have had week long periods where I practically starve myself. This follows periods when I overeat. It seems I live a life of either feast or famine.

10. (a) I usually am able to stop eating when I want to. I know when “enough is enough.”

(b) Every so often, I experience a compulsion to eat which I can’t seem to control.

(c) Frequently, I experience strong urges to eat which I seem unable to control, but at other times I can control my eating urges.

(d) I feel incapable of controlling urges to eat. I have a fear of not being able to stop eating voluntarily.

11. (a) I don’t have any problem stopping eating when I feel full.

(b) I usually can stop eating when I feel full but occasionally overeat leaving me feeling uncomfortably stuffed.

(c) I have a problem stopping eating once I start and usually I feel uncomfortably stuffed after I eat a meal.

(d) Because I have a problem not being able to stop eating when I want, I sometimes have to induce vomiting to relieve my stuffed feelings.

12. (a) I seem to eat just as much when I’m with others (family, social gatherings) as when I’m by myself.

(b) Sometimes, when I’m with other people, I don’t eat as much as I want to eat because I’m self-conscious about my eating.
(c) Frequently, I eat only a small amount of food when others are present, because I’m very embarrassed about my eating.

(d) I feel so ashamed about overeating that I pick times to overeat when I know no one will see me. I feel like a “closet eater.”

13. (a) I eat three meals a day with only an occasional between meal snack.
(b) I eat three meals a day, but I also normally snack between meals.
(c) When I am snacking heavily, I get in the habit of skipping regular meals.
(d) There are regular periods when I seem to be continually eating, with no planned meals.

14. (a) I don’t think much about trying to control unwanted eating urges.
(b) At least some of the time, I feel my thoughts are preoccupied with trying to control my eating urges.
(c) I feel that frequently I spend much time thinking about how much I ate or about trying not to eat anymore.
(d) It seems to me that most of my waking hours are preoccupied by thoughts about eating or not eating. I feel like I’m constantly struggling not to eat.

15. (a) I don’t think about food a great deal.
(b) I have strong cravings for food but they last only for brief periods of time.
(c) I have days when I can’t seem to think about anything else but food.
(d) Most of my days seem to be preoccupied with thoughts about food. I feel like I live to eat.
16.  (a) I usually know whether or not I’m physically hungry. I take the right portion of food to satisfy me.

(b) Occasionally, I feel uncertain about knowing whether or not I’m physically hungry. At these times it’s hard to know how much food it should take to satisfy me.

(c) Even though I might know how many calories I should eat, I don’t have any idea what is a “normal” amount of food for me.

THANK YOU SO MUCH FOR YOUR PARTICIPATION!!!!!!
### Appendix D

**Block Dietary Fat Screener**

<table>
<thead>
<tr>
<th>Meats and Snacks</th>
<th>1/month or less</th>
<th>2-3 times a month</th>
<th>1-2 times a week</th>
<th>3-4 times a week</th>
<th>5 + a week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamburger</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beef or Pork</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fried Chicken</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hot Dogs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cold Cuts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bacon/sausage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salad dressing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Margarine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil cooking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eggs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pizza</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheese/spread</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Think about your eating habits over the past year or so. About how often do you eat each of the following foods? Remember breakfast, lunch, dinner, snacks and eating out. Check one box for each food.
Appendix E

Culture Specific Food Frequency Questionnaire (CSFFQ)
Instructions: Please select the option that best describes the frequency that you eat the following soul food items: Rarely, Sometimes, Often, Very Often, and Frequently.

0= Rarely (1 time a month or less)
1= Sometimes (2-3 times a month)
2= Often (1-2 times a week)
3= Very Often (3-4 times a week)
4= Frequently (5 or more times a week)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Macaroni &amp; Cheese</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>2</td>
<td>Collard Greens</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>3</td>
<td>Pork Skins or “fat back”</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>4</td>
<td>Fried Chicken</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>5</td>
<td>Yams</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>6</td>
<td>Corn Bread</td>
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<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>7</td>
<td>Beans</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>8</td>
<td>Prepare food with Pork</td>
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<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>9</td>
<td>Pork BBQ</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
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<tr>
<td>10</td>
<td>Chitterlings</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>11</td>
<td>Rice</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
</tbody>
</table>
Appendix F

Demographics Form

1. Age: _____ years

2. Gender: _____ Male _____ Female

3. Race:
   _____ American Indian or Alaskan Native
   _____ Asian
   _____ Black or African American
   _____ Native Hawaiian or Other Pacific Islander
   _____ White or Caucasian American
   _____ Hispanic or Latino
   _____ Other

4. Religion/Religious Affiliation:
   _____ Christian
   _____ Jewish
   _____ Muslim
   _____ Catholic
   _____ Buddhist
   _____ None
   _____ Other List: ____________
5. Annual Income:
   _____ less than $25,000
   _____ $25,000 - $35,000
   _____ $35,000 - $45,000
   _____ $45,000 - $55,000
   _____ $55,000 - $65,000
   _____ more than $65,000

6. Occupation:
   _____ Full Time
   _____ Part Time
   _____ Student
   _____ Retired
   _____ Retired
   _____ Unemployed

7. Education:
   _____ High School
   _____ some college
   _____ Bachelors degree
   _____ Masters degree
   _____ Doctoral or Professional degree (PhD, JD, MD, DDS, etc.)
8. Weight:
   ____ 100-120
   ____ 121-140
   ____ 141-160
   ____ 161-180
   ____ 181-200
   ____ over 200 pounds

9. Height:
   ____ 5’ and under
   ____ 5’1” – 5’5”
   ____ 5’6” – 5’11”
   ____ 6’ and over

10. Marital Status:
    ____ Married
    ____ Single
    ____ Domestic Partnership

11. Do you Have Children? ____ yes ____ no
    If yes, how many children do you have? _____