

Overeating Among Black American Women: The Role of Racism, Racial Socialization, and Stress

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BOSTON COLLEGE
LYNCH SCHOOL OF EDUCATION

Department of Counseling, Developmental, & Educational Psychology

Counseling Psychology Doctoral Program

**OVEREATING AMONG BLACK AMERICAN WOMEN: THE ROLE OF
RACISM, RACIAL SOCIALIZATION, AND STRESS**

Dissertation
by

MARGARET KASSAKIAN CONNOLLY

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of the requirements for the degree of
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Abstract

Overeating among Black American women:

The role of racism, racial socialization, and stress

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Recent research suggests that eating disorders exist across genders, races and ethnicities (e.g., Smolak & Striegel-Moore, 2001; Striegel-Moore & Smolak, 2000; Talleyrand, 2002, 2006; Taylor, Caldwell, Baser, Faison, & Jackson, 2007; Thompson, 1994, 1996), but most findings and frameworks within the eating disorders literature are based on research with White women who engage in restrictive eating patterns. Given the rapid rise in rates of obesity and related illnesses in the United States – particularly among Black American women (e.g., Hedley et al., 2004), an understanding of overeating that accounts for race-related factors is needed. By exploring the relationship between perceived racism, racial socialization, perceived stress, and overeating patterns among Black American women, the current study sought to develop a model of disordered eating that accounts for the unique contextual, emotional, and behavioral factors in the lives of Black American women.

Using a sample of Black American women (N = 201), the results of the data analysis revealed that perceived racism was related to overeating by way of perceived stress. This finding supports theories that race-related factors underlie the development of eating disorder symptoms (e.g., Harris & Kuba, 1997) and that perceived racism may be a significant etiological factor in the development of eating disturbances among Black

American women (Mastria, 2002; Root, 1990; Smolak & Striegel-Moore, 2001; Thompson, 1994, 1996; Talleyrand, 2006). This finding also adds to the larger body of literature, which links perceived racism to a range of negative psychological, behavioral, and physical outcomes (e.g., Mays et al., 2007). Racial socialization was not found to have a significant moderating effect in the relationship between perceived racism and overeating, but was unexpectedly found to be related to disinhibition around food. Although the explanation for this finding is unclear, it is consistent with some evidence that that identification with Black American culture may promote greater levels of comfort regarding food (Talleyrand, 2006; Villarosa, 1994).

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CHAPTER I

Eating disorders have long been thought to be a White, female, middle- to upper-class phenomenon (e.g., Bruch, 1979; Garner & Garfinkel, 1988; Minuchin, Rosman, & Baker, 1978). Recent research, however, suggests that eating disorders exist across genders, races, and ethnicities (Chandler, Abood, Lee, & Cleveland, 1994; Crago, Shisslak, & Estes, 1996; Franko, Becker, Thomas, & Herzog, 2007; Hsu, 1987; Pike & Walsh, 1996; Root, 1990; Rucker & Cash, 1992; Smolak & Striegel-Moore, 2001; Striegel-Moore & Smolak, 2000; Talleyrand, 2002, 2006; Taylor, Caldwell, Baser, Faison, & Jackson, 2007; Thompson, 1994, 1996). Despite the existence of eating disorders across diverse groups, there is a paucity of research that examines models of eating disorders that account for a diversity of experiences. Instead, findings and frameworks within the eating disorders literature are based on research with White women, but are applied to all groups resulting in inaccurate and unsupported assumptions about eating disorders among women of color.

Although Black women have been found to engage in some types of disordered eating behaviors at rates as high or higher than White women in the United States (Striegel-Moore & Smolak, 2000; Taylor et al., 2007), few studies exist that explore etiological factors related to eating disorders among Black women specifically. For example, binge eating has been shown to be the most common way eating disorders present among Black women (Striegel-Moore et al., 2003; Taylor et al.), but little research has examined the etiology of binge eating within this group. Given that binge eating is directly linked with obesity (Hudson, Hiripi, Pope, & Kessler, 2007; Kumanyika et al., 2005; Striegel-Moore & Franko, 2003), and because Black American women suffer

from comparatively high rates of obesity and related illnesses (Davis, Clance, & Gailis, 1999; Foreyt & Poston, 1999; Leigh, 1995; Hedley et al., 2004; Smolak & Striegel-Moore, 2001), understanding race-related factors linked with binge eating is imperative (Talleyrand, 2006).

Unfortunately, an effective consideration of race and culture, and the type of eating disturbances that has been shown to occur most frequently among Black women (binge eating), has been largely left out of eating disorder research. In fact, Black women have also been largely left out of eating disorder research. If Black women are studied, they are often administered scales and measures that have been normed on White samples, and are expected to fit within frameworks developed for White populations (O'Neill, 2003; Smolak & Streigel-Moore, 2001). The resulting gap in our understanding of eating disorders among Black women leaves this group vulnerable to continued eating disturbances, weight gain, and weight-related illness without the deserved support of culturally informed diagnoses and interventions. Research that bridges the existing divide between an understanding of race and ethnicity and that of eating disorders is needed in order to develop culturally sensitive models and frameworks that effectively describe the unique development of eating disorders across diverse populations (Root, 2001; Talleyrand, 2006).

Diagnosable eating disorders as defined by the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (*DSM-IV*) are limited to anorexia nervosa (AN) and bulimia nervosa (BN). AN is defined as an eating disorder characterized by a person's refusal to maintain his or her body weight through use of excessive dieting and inaccurate perceptions of his or her body image based on an obsessive fear of becoming fat. BN is

characterized by a person's excessive rapid bingeing followed by purging through use of self-induced vomiting, laxatives, diuretics, restrained eating, or excessive exercise (American Psychiatric Association, 1994).

AN and BN are thought to arise from a pervasive sociocultural pressure to be thin within the United States. This pressure is thought to come from American media, which equates thinness with success, beauty and happiness. Some White and Black women are more vulnerable than others to internalizing this thin ideal and, in turn, develop an irrational drive to lose excessive weight, which may result in AN or BN. Family, peer and individual factors have been shown to be related to an increased vulnerability to media messages and the development of AN and BN. Family and peer factors that have been found to be related to AN and BN include (but are not limited to) competitive family and peer environments that emphasize weight and appearance (Brooks-Gunn, Burrow, & Warren, 1988; Brooks-Gunn & Warren, 1985; Garner & Garfinkel, 1988; Hamilton, Brooks-Gunn, & Warren, 1985); family and peers who encourage and/or model weight loss behaviors (e.g., dieting) and attitudes (e.g., you can never be too thin) (Branch & Eurman, 1980; Smolak, Levine, & Schermer, 1999; Stice, 2002); and family dynamics that are critical, enmeshed, intrusive and/or insensitive to the emotional needs of each other (Minuchin et al., 1978; Attie & Brooks-Gunn, 1989). Individual factors that have been found to be related to AN and BN include (but are not limited to) low self-esteem, body dissatisfaction, and inadequate identity formation (Attie & Brooks-Gunn; Johnson & Maddi, 1986; Polivy & Herman, 2002; Stice, 2002).

The diagnostic categories and etiological underpinnings described above have been developed based on the experiences of young White women. It has been shown that

Black women who internalize White cultural values and devalue Black cultural values are also vulnerable to the White sociocultural pressure to be thin, which may result in the development of AN or BN (Abrams, Allen, & Gray, 1993; Akan & Grilo, 1995; Bessellieu, 1997; Rucker & Cash, 1992; Smolak & Striegel-Moore, 2001; Talleyrand, 1998, as cited in Talleyrand, 2002, 2006). But evidence also suggests that eating disorders may present differently among some Black women, and in ways that are not captured by formal *DSM-IV* criteria (Kuba & Harris, 2001) or by models and factors that assume that a drive for thinness underlies the process by which eating disorders develop (Harrington, Crowther, Payne Henrickson, & Mickelson, 2006). For example, evidence suggests that Black American women report greater body satisfaction than White women, and have been found to be less likely to diet than White women (Smolak & Strigel-Moore). Given these findings, a pursuit of thinness model likely does not account for eating disturbances, such as binge eating, among most Black American women (Talleyrand, 2006; Harris & Kuba, 1997).

In addition, although binge eating has been shown to be the most common way eating disorders present among Black American women (Taylor et al., 2007), Binge Eating Disorder (BED) was only recently added to the *DSM* as a conditional diagnosis undergoing further empirical study and has received little empirical attention to date. Binge Eating Disorder is tentatively defined by “eating, in a discrete period of time, an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances” accompanied by a sense of loss of control (American Psychiatric Association, 1994). This definition is particularly vague in that it does not specify who “most people” are and how much they would eat in a

“discrete period of time.” Subthreshold binge eating, or binge eating that does not meet *DSM-IV* criteria, is also linked with overweight and/or distress among individuals (Bunnell, Shenker, Nussbaum, & Jacobson, 1990; Hay, Fairburn, & Doll, 1996). Data suggest that BED and subthreshold binge eating affect a much more diverse group than AN or BN (Taylor et al.), but little research has examined the race-based etiological underpinnings of binge eating. Binge eating is thought to arise from dietary restraint, emotional affect, and/or general stress (O’Connor, Jones, Conner, McMillan, & Ferguson, 2008), but these theories fail to account for the important role of race and culture in the lives of diverse populations.

Kuba and Harris (2001) suggest looking at contextual variables (e.g., racism) as opposed to interpersonal variables (e.g., body dissatisfaction) in order to understand eating disorders among women of color. Racism has a significant impact on the physical and psychological development of Black Americans and has been linked with a range of negative health outcomes (e.g., hypertension and depression). One way racism is thought to impact health is by creating increased daily stress in the lives of Black Americans (Clark, Anderson, Clark, & Williams, 1999). Given that stress has been shown to be linked to binge eating (O’Connor et al., 2008), an exploration of racism, stress, and binge eating among Black women makes sense, and is one way to effectively integrate two historically separate literatures (i.e., that of race and culture, and that of eating disorders) and to begin to account for the unique experiences of Black women within the eating disorders literature. The current study proposes that the potential relationship between perceived racism and binge eating may be explained by stress. In other words, perceived racism may cause perceived stress, which may result in binge eating.

Additionally, it is important to explore buffers of racism, which may serve as protective factors for eating disorders among Black women, and inform prevention and intervention efforts within this population. Racial identity and racial socialization are related processes, which have been shown to support the healthy development of Black Americans starting in childhood and lasting across the lifespan (Arroyo & Zigler, 1995; Bowman & Howard, 1985; Boykin & Toms, 1985; Caldwell, Kohn-Wood, Schmeelk-Cone, Chavous, & Zimmerman, 2004; Cross, Strauss, & Fhagen-Smith, 1999; Hughes, 2003; Phinney & Chavira, 1995; Nicolas et al., 2008; Rowley, Cooper, & Clinton, 2006; Sellers & Shelton, 2003; Stevenson, 1994; Stevenson, Cameron, Herrero-Taylor, & Davis, 2002; Wong, Eccles, & Sameroff, 2003). Racial identity refers to the extent to which a person identifies with the racial group to which he or she belongs, which is thought to be necessary for healthy psychological functioning within a racist society (Helms & Cook, 1999). Helms's (1990, 1995) model of Black racial identity development consists of four race-related information-processing schemas, which are fluid (i.e., individuals may move back and forth between them). These schemas include: 1) Preencounter, or perceiving Whites and White culture to be superior; 2) Post-encounter, or confusion about how to respond to racial cues; 3) Immersion/emersion, or idealizing Blackness and denigrating Whiteness; and 4) Internalization, or treating Blacks as one's primary, but not exclusive, reference group. The ultimate goal of these developmental processes is to abandon internalized racism and achieve a positive and healthy collective group identity.

Racial identity is thought to develop through racial socialization. Black racial socialization includes the messages and strategies used by Black parents, teachers,

extended family, and other role models to teach children about Black American culture, prepare them for experiences of racism, and promote a healthy mistrust of non-Blacks (Hughes & Chen, 1997; Stevenson, 1995; Thomas & Speight, 1999). Evidence suggests that most Black American parents engage in some form of racial socialization as they raise their children (Hughes et al., 2006; Thornton, Chatters, Taylor, & Allen, 1990), although these forms vary widely (Neblett et al., 2008). Overall, the goal of racial socialization is to protect Black American children from the stigma that they face in the United States because of their race, and to promote healthy identity development despite a pervasive racist environment (Bowman & Howard, 1985; Hughes & Chen, 1999; Marshall, 1995; Stevenson et al., 2002; Thornton et al., 1990). Racial socialization has been linked with a number of positive psychosocial outcomes such as greater self-esteem, effective anger management, and reduced stress among Black adolescents and young adults (e.g., Constantine & Blackmon, 2002; Fischer & Shaw, 1999; Neblett et al.; Sanders, 1997; Stevenson, 1997).

While both racial identity development and racial socialization are thought to jointly promote healthy development, only racial identity development has been examined in relation to the manifestation of eating disorders in Black American women (Abrams et al., 1993; Akan & Grilo, 1995; Bessellieu, 1997; Dinsmore & Mallinckrodt, 1996; Talleyrand, 1998, as cited in Talleyrand, 2002, 2006), with limited findings. The most common finding has been that Black American women who idealize Whiteness or use White identified schemas (e.g., Preencounter), tend to engage in restrictive forms of disordered eating attitudes and behaviors, which are most often seen among White women (e.g., dietary restraint and body dissatisfaction). In other words, Black American

women's use of the least sophisticated racial identity schema appears to be linked to symptoms of AN and BN. But this line of research continues to rely on the White sociocultural model of thinness to account for the development of eating disorders. Research has yet to account for the race-related underpinnings of binge eating among Black women, or how more sophisticated racial identity schemas or positive racial socialization may impact the development of eating disorders among Black women.

What are considered universal principles regarding eating disorders needs to be re-examined in order to incorporate the unique experiences of Black women. To this end, the current study aims to account for race in an examination of disordered eating among Black women. Given evidence that racism is related to disordered eating among Black women (Harrington et al., 2006; O'Neill, 2003; Talleyrand, 2002, 2006; Thompson, 1994, 1996) and that general stress is related to binge eating (O'Connor et al., 2008), the current study examined the relationship between perceived racism and binge eating within this group, and assessed whether stress acts as a mediator between the two. In addition, the current study aimed to identify racial socialization as one factor that may help protect Black women from developing binge eating patterns. Given the evidence that some forms of racial socialization support healthy racial identity development (Stevenson, 1995) and buffers race-related stress (Neblett et. al., 2008), the current study proposed that racial socialization may protect Black women from developing eating disorders by reducing perceived stress that may be associated with racism.

It is hoped that the findings of this study will contribute to an understanding of race-specific risk (e.g., racism) and protective (e.g., racial socialization) factors for overeating within the lives of Black American women. It is also hoped that the findings

of this study will contribute to better definition, assessment and detection of eating disorders among Black women. On a broader level, it is hoped that the findings of this study will support the overall short- and long-term health of Black women thereby helping to reduce the significant health disparities within the United States.

CHAPTER II

Eating disorders are associated with a variety of adverse mental and physical repercussions including depression, substance abuse, infertility, malnutrition, suicide and even death (Holderness, Brooks-Gunn, & Warren, 1994; Polivy & Herman, 2002; Stice, 1999; Wilson, Heffernan, & Black, 1996). Rates of mortality related to eating disorders are estimated to range from just over 5% to just over 8% of those diagnosed (Herzog et al., 2000; Steinhausen, Seidel, & Metzke, 2000). There is no easy treatment for eating disorders, and about a third of eating disordered individuals continue to meet diagnostic criteria five years and longer after initial treatment (Fairburn, Cooper, Doll, Norman, & O'Connor, 2000; Keel, Mitchell, Miller, Davis, & Crow, 1999).

It is important to note that the above statistics are based on eating disorders that are formally diagnosed in a clinical setting often among White middle to upper class girls and women. It is believed, though, that a large percentage of eating disorders go undiagnosed and untreated either because individuals do not seek help (Polivy & Herman, 2002), or because clinicians do not think of certain groups (such as men and people of color) as being at risk for eating disorders, and therefore fail to identify, treat and report eating issues within these populations (Crago et al., 1996; O'Neill, 2003; Thompson, 1994, 1996). As a result, the true prevalence of eating disorders is difficult to estimate (Dolan, 1991), but two recent studies have attempted to do so.

In the first nationally representative study of eating disorders in the United States, Hudson et al. (2007) found that the lifetime prevalence rate of *DSM-IV* diagnosable eating disorders among English-speaking adults ages 18 years or older ranged from 0.6% to 2.8%. This rate was consistently 1.75 to 3 times higher among women than men, and

the median age of onset for eating disorders ranged from ages 18 to age 21 years (Hudson et al.). Hudson et al. did not address race or ethnicity in their study, but a similar study conducted by Taylor et al. (2007) looked at the prevalence rates of eating disorders within a nationally representative sample of Black Americans (African Americans and Caribbean Black Americans) specifically. Taylor et al. found a pattern of results among Black Americans that was similar to the pattern found by Hudson et al. within the general population. Among Black American adults age 18-30 years, Taylor et al. found that the lifetime prevalence of DSM-IV diagnosable eating disorders ranged from 0.17% to 1.49% with eating disorders occurring, on average, 1.78 times more often among Black women than Black men. Taylor et al. also found that the median age of onset for eating disorders among Black Americans ranged from ages 14 to 20 years (slightly younger than Hudson et al. found in the general population).

Although no nationally representative study has been published that compares prevalence rates of eating disorders across racial and ethnic groups in the United States, a meta-analysis conducted by O'Neill (2003) found that among African American and White women over the age of 13, the rate of eating disturbances in African American women is less than that of White women overall, but the differences appear to be small and vary depending on the type of eating disorder being assessed.

Current research clearly shows that eating disorders exist across racial and ethnic groups (Chandler et al., 1994; Crago et al., 1996; Franko et al., 2007; Hsu, 1987; Pike & Walsh, 1996; Root, 1990; Rucker & Cash, 1992; Smolak & Striegel-Moore, 2001; Striegel-Moore & Smolak, 2000, Taylor et al., 2007), but the majority of empirical and clinical attention continues to center on *DSM*-defined eating disorders among middle- to

upper-class White women (O'Neill, 2003; Polivy & Herman, 2002; Talleyrand, 2006; Taylor et al.). As such, most established theories and frameworks used to understand eating disorders, and diagnostic tools used to identify eating disorders have been developed using research conducted with White women (Kuba & Harris, 2001; O'Neill).

Because models that have been developed to explain eating disorders among White women are often applied to *all* women, the limited amount of research concerning eating disorders among women of color is plagued with conceptual and methodological challenges (O'Neill, 2003; Smolak & Striegel-Moore, 2001; Striegel-Moore & Smolak, 1996, 2000; Talleyrand, 2006) and does not account for the unique experiences of women of color. As a result, the presentation and etiology of eating disorders among women of color are not well defined or understood (Kuba & Harris, 2001; Thompson, 1994, 1996), and eating concerns within this group are often missed or misunderstood in clinical settings. What is absent from the field is an understanding of eating disorders that effectively accounts for race and culture (Root, 2001).

Eating Disorders: Definitions and Prevalence

The *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (*DSM-IV*) defines eating disorders narrowly, describing only two diagnosable disordered eating patterns - anorexia nervosa (AN) and bulimia nervosa (BN). Binge eating disorder (BED) was added to the most recent edition of the *DSM* as an exploratory category for further study, and is considered only a partial eating disorder. Although the prevalence of partial eating disorders is double that of AN and BN combined (Polivy & Herman, 2002), and may be more typical among Black women (Harris & Kuba, 1997), partial eating disorders are only briefly accounted for in the *DSM-IV* under the category of "Eating Disorder Not

Otherwise Specified.” As a result, a broad range of eating disturbances, especially among Black women, may be missed using *DSM-IV* criteria.

Despite lacking culturally sensitive criteria (Taylor et al., 2007), thereby reflecting and perpetuating gaps in the field’s understanding of eating disorders, the *DSM-IV* provides the field with the most official and current definitions of eating disorders, and serves as the central guide for clinicians and researchers alike. For these reasons, eating disorders as defined by the *DSM-IV* will be described below.

Anorexia Nervosa – DSM-IV Definition and Reported Prevalence

According to the *DSM-IV*, AN is characterized by an individual’s refusal to maintain their body weight above 85% of the normal weight for their age and height, an intense fear of becoming fat, inaccurate perceptions of body shape, and amenorrhea for at least three consecutive menstrual cycles. AN is categorized either as a restrictive type, or a bulimic type. Restrictive-type AN is distinguished by an almost complete refusal to eat. Bulimic-type AN is distinguished by regular binge eating and purging while maintaining less than 85% of normal body weight (American Psychiatric Association, 1994).

More than 90% of the cases of AN occur in females, and AN is far more prevalent in industrialized societies (such as the United States), where there is an abundance of food, and where the dominant culture defines being attractive as being thin (American Psychiatric Association, 1994). Three population-based surveys (Garfinkel, Lin, Goering, & Speeg, 1995; Hudson et al., 2007; Walters & Kendler, 1995) have estimated the lifetime prevalence of AN among adult women to be low - between 0.5% and 0.9%. While these population-based studies did not report prevalence of AN based on race or ethnicity, other studies have found AN to be most common among White women and to

be rare among Black women within the United States (Striegel-Moore et al., 2003; Taylor et al., 2007). For example, Taylor et al found that, compared to the general population-based surveys, the lifetime prevalence of AN for African American adults was .17%, which is significantly lower than the lifetime prevalence among women in the general population-based surveys. In addition, Taylor et al. found no cases of AN among Black Caribbean Americans at all.

Bulimia Nervosa – DSM-IV Definition and Reported Prevalence

A review of research suggests that the incidence of BN outnumbers that of AN by at least two to one in Western societies (Polivy & Herman, 2002), and research indicates that the overall incidence of BN has increased significantly in the second half of the twentieth century (Hoek & van Hoeken, 2003; Hudson et al., 2007; Kendler, MacLean, Neale, & Kessler, 1991). According to the *DSM-IV*, BN is characterized by binge eating (i.e., eating a larger amount of food than most people would eat in a similar time frame, accompanied by a feeling of loss of control of one's eating during the episode) followed by purging through use of self-induced vomiting, laxatives, diuretics, restrained eating, or excessive exercise. This binge-purge cycle must occur at least twice a week for a minimum of three months to meet *DSM-IV* diagnostic criteria for BN (American Psychiatric Association, 1994).

Similar to AN, the *DSM-IV* reports that at least 90% of the cases of BN occur among women. In four population-based surveys, the lifetime prevalence of BN among adult women has been estimated to be 1.1% to 2.8% (Bushnell, Wells, Hornblow, & Oakley-Browne, 1990; Garfinkel et al., 1995; Hudson et al., 2007; Kendler et al., 1991). Although the population-based studies did not report prevalence based on race or

ethnicity, other studies have attempted to do so with conflicting results. For example, Taylor et al. (2007) found that the lifetime prevalence of BN for African American and Black Caribbean American women is 1.9% (similar to that of White women). On the other hand, Striegel-Moore et al. (2003) found lifetime prevalence rates among Black women to be only 0.4% - significantly lower than that of White women. Given the increase in prevalence of BN in general over the latter half of the twentieth century (Hudson et al.), Taylor et al.'s findings may reflect an increase in BN among Black Americans since 2003 when Striegel-Moore and her colleagues published their study. Or, other methodological issues may account for the difference in results between studies.

Because bingeing and purging are not only characteristic of BN, but are also characteristic of one major type of AN, there is a confusing overlap between AN and BN. BN may differ from bulimic-type AN only in that individuals with BN do not maintain a body weight below 85% of the normal weight for age and height, and they do not display amenorrhea (Polivy & Herman, 2002). Some argue that bulimic-type AN should be considered BN (Gleaves, Lowe, Green, Cororve, & Williams, 2000), while others suggest that AN and BN should be considered one syndrome with different manifestations (VanderHam, Meulman, VanStrien, & vanEngeland, 1997). In fact, although the diagnostic criteria for AN and BN differ, their core symptoms (e.g., body dissatisfaction; preoccupation with food, weight and shape; and certain ego deficits) are the same (Polivy & Herman). Not only is there a significant overlap in the core symptoms of AN and BN, their etiologies, though multifaceted and complex, are also thought to be very similar.

What Contributes to Anorexia Nervosa and Bulimia Nervosa?

Although research on AN and BN has been burgeoning since the 1970s (e.g., Bruch, 1979; Garner & Garfinkel, 1988; Minuchin et al., 1978), the field of eating disorders is still relatively young. While there is agreement that a complex interaction of environmental, social, psychological and biological factors leads to eating disorders, capturing this interaction is difficult to do – especially because cross-sectional and non-experimental research makes up the bulk of the established research on eating disorders, and this type of research does not lend itself to making causal inferences (Polivy & Herman, 2002). Nevertheless, a number of theories have been proposed to account for the development of AN and BN, but none has received as much empirical attention and acceptance in the field as the sociocultural model of eating pathology. Although influential, serving as a central theory to understand eating disorders, the sociocultural model is limited by its over-reliance on a single aspect of the environment (i.e., White mainstream culture) as the a central risk factor, and is based on research with White middle to upper class women. A description of the sociocultural model illustrates the absence of a consideration of women of color in established conceptualizations of eating disorders.

The Sociocultural Model of Eating Disorders

The sociocultural model of eating disorders posits that a social pressure to be thin and a generalized overvaluation of appearance within the United States are central contributors to eating pathology among American women (Polivy & Herman, 2002; Stice, 2002). Research suggests that these pressures and values originate within White mainstream American media, which leads to the general sense that no one is thin enough.

Magazines, television, and movies portray White ultra-thin models, actresses and media figures, sending the message that in order for women to be attractive, successful and happy, they must be thin. For those who buy into the media's glorification of thinness, a general dissatisfaction towards body shape and size can result. This dissatisfaction, in turn, can create a drive to be as thin as possible making women vulnerable to cycles of dieting, weight loss, and subsequent weight gain, which may lead to AN or BN (Chernin, 1981; Orbach, 1978). Internalizing the media's message that thin is equated with beauty, success, and happiness can also lead women to believe that losing weight will bring them closer to these desired ends. In this way, thinness can be "relentlessly pursued by those who see no better way to solve their problems" (Polivy & Herman, p. 193).

But exposure to media images does not, on its own, lead to eating pathology and most women living in the United States do not develop eating disorders (Polivy & Herman, 2004). Research has identified a number of risk factors that may contribute to individual vulnerability to media messages and to defining oneself by society's standards. These risk factors can be organized using a biopsychosocial framework. Although this framework lacks specificity, it has the advantage of considering factors ranging from the overarching environment to individual biology while encompassing factors in between such as family, peers, personality and cognitions (Leung, Geller, & Katzman, 1996). It is important to note that these factors have been identified mainly in research with White middle to upper class women based on the assumption that internalizing a White-defined thin ideal leads to eating disorders. As will be explored later, generalizations of these findings to Black women are often empirically unsupported and misleading.

Risk factors: family and peer pressure. Certain proximal environments have been found to increase the pressure to achieve the White media-driven thin ideal. For example, research suggests that adolescent girls in competitive family or peer environments that emphasize weight and appearance experience increased social pressure to be thin (Brooks-Gunn et al., 1988; Brooks-Gunn & Warren, 1985; Garner & Garfinkel, 1980; Hamilton et al., 1985). In addition, family and friends may model and praise eating disorders (Branch & Eurman, 1980; Smolak et al., 1999; Stice, 2002), and teach eating disordered attitudes (e.g., being thin is important) and behaviors (e.g., how to diet) to each other. For example, adolescent female cliques tend to be homogeneous with respect to body image concerns (Paxton, Schutz, Wertheim, & Muir, 1999) and therefore are likely to reinforce each other's desire and efforts to lose weight.

Risk factors: family dynamics. Not only can families and friends directly model and encourage unnecessary weight loss, family dynamics can indirectly promote a drive for thinness as well (Minuchin et al., 1978). Studies have shown that families of eating disordered girls tend to be critical (Haworth-Hoepfner, 2000), enmeshed, intrusive, and insensitive to the emotional needs of each other (Attie & Brooks-Gunn, 1989; Minuchin et al.). In addition, maternal comments have been shown to more powerfully influence the development of eating disorders than simple modeling of weight and shape concerns (Ogden & Steward, 2000; Smolak et al., 1999). For example, Vanfurth et al. (1996) found that mothers' general critical comments prospectively predicted eating disorders for their daughters.

The process by which family dynamics influence the development of eating disorders is not well understood, but literature derived from clinical experience suggests

that families with high standards for achievement, little support for autonomy, and blurred interpersonal boundaries impact individual factors related to eating disorders such as an adolescent girls' sense of effectiveness and level of self-esteem (Goldstein, 1981; Minuchin et al., 1978). Individual and biological factors that have been shown to be linked to eating disorders will be described below.

Risk factors: individual and biological. A number of individual factors have been shown to be empirically linked to eating disorders among White girls and women. These factors include negative affect, low self-esteem, body dissatisfaction, dieting, cognitive distortions (e.g. obsessive thoughts that one is too fat), personality features (e.g., the need for control and perfectionist tendencies), inadequate identity formation, feelings of ineffectiveness, and maturity fears (Attie & Brooks-Gunn, 1989; Johnson & Maddi, 1986; Polivy & Herman, 2002; Stice, 2002).

Crisp (1985) also notes that normal weight gain at puberty can be a significant risk factor for girls. During puberty, increases in body fat, including breast development, have been found to be associated with desires to be thinner (Crisp; Dornbusch, 1984). In particular, early maturers may be at greater risk for developing eating problems because they are, for a time, heavier than their peers (Brooks-Gunn, 1988; Faust, 1987). Attie and Brooks-Gunn (1989) suggest that the confluence of adolescent tasks (i.e., accommodation to the physical changes of the pubertal period within a cultural milieu that values the prepubertal over the mature female body; the loosening of childhood ties to parents and the move toward greater psychological and physical autonomy; and the development of a stable and cohesive personality structure for the regulation of mood, impulse, and self-esteem) makes for a particularly vulnerable time for the development of eating disorders.

Does the Sociocultural Model Pertain to Black Women?

According to Kuba and Harris (2001), theoretical approaches must be applied within a cultural context. For this reason, it is essential to examine the applicability of established research and theory to specific populations. In this section, whether the sociocultural model of AN and BN and related risk factors, which have been shown to contribute to eating disorders among White middle to upper class women, holds for Black American women will be explored. In other words, does a culturally-mandated drive for thinness, which has been shown to underlie the process by which eating disturbances develop among White women, also underlie the process by which eating disturbances develop among Black women?

The wealth of research on AN and BN within White populations suggests that eating disorders among White women arise from culturally-laden factors such as a cultural pressure to be thin, the internalization of a thin ideal, and body dissatisfaction that can result from a discrepancy between one's own body and a thin body ideal (e.g., Stice & Agras, 1998). While research suggests that a pursuit of thinness model of eating disorders does not adequately explain eating pathology for all Black women (Harrington et al., 2006; Smolak & Striegel-Moore, 2001; Talleyrand, 2002), it has been shown to hold true for Black women who internalize White cultural values (Talleyrand, 2006). In other words, glorifying White culture and devaluing Black culture leaves some Black women vulnerable to the White sociocultural pressure to be thin, resulting in the possible development of AN or BN (Abrams et al., 1993; Akan & Grilo, 1995; Bessellieu, 1997; Rucker & Cash, 1992; Smolak & Striegel-Moore, 2001; Talleyrand, 1998, as cited in Talleyrand, 2002, 2006).

Acculturation and internalizing racism are two processes by which an individual may internalize White cultural values. Acculturation refers to the process of adopting the cultural norms of the majority culture (Helms & Cook, 1999), and internalized racism refers to “acceptance by members of the stigmatized races of negative messages about their own abilities and intrinsic worth... It manifests as an embracing of ‘whiteness’; self devaluation, and resignation, helplessness and hopelessness” (C. P. Jones, 2000, pp. 1213). Limited research has examined the roles acculturation and internalized racism play in the manifestation of eating disorders among Black women. Studies suggest that Black women who are highly acculturated to White culture may assimilate to White beauty ideals and are therefore more vulnerable to eating disturbances (Abrams et al., 1993; Harris & Kuba, 1997; Hsu, 1987). Studies also suggest that Black American women who idealize Whiteness or internalize racism tend to also engage in restrictive forms of disordered eating attitudes and behaviors, which are most often seen among White women (e.g., dietary restraint and body dissatisfaction) (Abrams et al.; Bessellieu, 1997; Talleyrand, 1998 as cited in Talleyrand, 2002, 2006).

While the above research examines restrictive eating behaviors, questions remain about factors that contribute to binge eating (without purging), which is the most common disordered eating pattern among Black women (Taylor et al., 2007). Research suggests that factors (e.g., body dissatisfaction) that lead to restrictive eating disorders may not account for overeating among Black women. For example, Black American women have been shown to report greater body satisfaction than White women (Altabe, 1998; Cash & Henry, 1995; Smith, Marcus, Lewis, Fitzgibbon, & Schreiner, 1998), are more satisfied with higher body weights, identify a heavier ideal body than White women

(Abood & Chandler, 1997), and have been found to be less likely to diet than White women (Smolak & Striegel-Moore, 2001). At one time, in fact, researchers believed that Black culture protected Black women from eating disorders because of a reduced emphasis on thinness (Polivy & Herman, 2002). But because eating disorders have been shown to occur among White *and* Black women, and rates of some eating disorders (e.g., BED and subthreshold binge eating) have even been found to be similar among Black and White women (O'Neill, 2003; Striegel-Moore & Smolak, 2000), the motivation to be thin may not be the strongest predictor for binge eating among Black women (Talleyrand, 2006).

Rather than focusing exclusively on *DSM* diagnosable eating disorders and models originally developed to account for eating disturbances among White women, other equally viable eating disorder presentations, explanations and motivations, which apply to Black women who binge eat, need to be developed and studied (Harrington et al., 2006; Talleyrand, 2006). Several theorists have maintained that race-related factors underlie the development of eating disorder symptoms among Black women (e.g., Kuba & Harris, 2001). Racism, for example, is thought to be a significant etiological factor in the development of eating disturbances among Black women (Mastria, 2002; Root, 1990; Smolak & Striegel-Moore, 2001; Thompson, 1994, 1996; Talleyrand, 2006). Using metanalysis, O'Neill (2003) examined 18 studies to explore the relationship between ethnicity and eating disturbances and noted that although some studies have looked at how acculturation relates to eating disturbances, very few have looked at how the experiences of racism affect the development of eating disturbances. This may be because the exploration of acculturation and eating disorders rests on an established

model of eating disorder development (i.e., the White sociocultural model), while the exploration of racism and eating disorders requires a new framework.

The role of perceived racism in the manifestation of binge eating among Black women is the focus of the current study. In the remainder of this chapter, binge eating disorder (BED) and subthreshold binge eating will be introduced, race-related terms will be defined, and frameworks proposed by Clark et al. (1999) and Talleyrand (2006), which help to explain the relationship between perceived racism and binge eating will be described. Finally, the current study will be proposed.

Binge Eating Disorder: Definition and Prevalence

Because of its relatively new provisional status in the *DSM-IV*, BED is only just beginning to receive empirical attention, which, unlike research on traditional eating disorders (i.e., AN and BN), often includes Black populations. While understandings of BED are frequently couched in the traditional sociocultural model, other theories of BED have also been proposed, which help to expand our understanding of eating disorders among Black women.

BED is characterized by uncontrollable eating in the absence of compensatory behaviors (American Psychiatric Association, 1994). Although binge eating is present in the definition of all three *DSM* defined eating disorders, BED is thought to be unique and embody its own category of eating pathology. Currently, individuals presenting with BED symptoms would be diagnosed as having an “eating disorder not otherwise specified” (ED-NOS). ED-NOS is a brief category in the *DSM-IV* reserved for eating pathology that does not meet the criteria for any specific eating disorder.

Like the incidence of BN, the incidence of BED has increased significantly in the second half of the twentieth century (Hudson et al., 2007), and studies reviewed by Striegel-Moore & Franko (2003) suggest that BED is more common than BN within the general population. Hudson et al. estimates that the lifetime prevalence of BED for the “general population” is currently 2.8%, and that the lifetime prevalence of BED is 1.75 higher among women than men. Unfortunately, Hudson et al. did not specify the racial make-up of their sample, so who is included in the “general population,” or “women” is unknown. Although Hudson et al. did not account for race or ethnicity in their study, Taylor et al. (2007) found the lifetime prevalence for BED among Black women (2.36%) was similar to the lifetime prevalence of BED that Hudson et al. found in the “general population” (2.8%), but lower than the lifetime prevalence of BED that Hudson et al. found among “women” (3.5%). Other studies suggest that BED occurs as frequently among Black women as it does among White women (O’Neill, 2003). Together, these findings suggest that BED affects a demographically more diverse group than BN (Abrams et al., 1993; Smith et al., 1998; Striegel-Moore & Franko, 2003; Striegel-Moore, Wilfrey, Pike, Dohm, & Fairburn, 2000; Taylor et al.), and research is only beginning to explore the significance of this demographic heterogeneity and its implications for risk factors for BED.

In contrast to earlier studies that suggest that BED might be a relatively transient condition (Cachelin et al., 1999; Fairburn et al., 2000), BED is now thought to be at least as chronic and stable as AN or BN (Hudson et al., 2007). BED is not only a problem in its own right, but it is also strongly associated with severe obesity (Hudson et al.; Kumanyika et al., 2005; Striegel-Moore & Franko, 2003), which is a growing public

health issue in the United States - particularly among Black American women (Davis et al., 1999; Foreyt & Poston, 1999; Hedley et al., 2004; Leigh, 1995; Smolak & Striegel-Moore, 2001). In a study of Black and White women who met full criteria of BED (Pike, Dohm, Striegel-Moore, Wilfley, & Fairburn, 2001), 83% of Black women and 56% of White women with BED were obese (Body Mass Index (BMI) > 30), compared with 35% of Black women, and 15% of White women without a diagnosis of BED. Given these findings, it is troubling that research shows that less than half of individuals with BED seek treatment for their eating disorder (Hudson et al.), and that physicians infrequently assess their patients for binge eating (Crow, Peterson, Levine, Thuras, & Mitchell, 2004) or fail to recognize it.

In order to reverse the concerning trends related to BED, it needs as much empirical and clinical attention of the traditional eating disorders (AN and BN). In addition, subthreshold binge eating, which describes binge eating that does not meet the full criteria for BED, should be examined as the parameters of BED are still under consideration, and binge eating is a common and distressing problem for both clinical and non-clinical populations (McManus & Waller, 1995).

Subthreshold Binge Eating: Definition and Prevalence

Individuals may report binge eating even though they fail to meet the diagnostic criteria for BED (Bunnell et al, 1990; Hay et al., 1996). Like BED, individuals presenting with subthreshold binge eating symptoms would be diagnosed as having an ED-NOS. In their prevalence studies, Hudson et al. (2007) and Taylor et al. (2007) examined the prevalence of binge eating that does not meet criteria for a DSM-IV diagnosis. A comparison of these studies suggests that subthreshold binge eating may be most

common among Black women. Among “women in the general population,” Hudson et al. found the lifetime prevalence of binge eating to be 5.5%. Among Black women specifically, Taylor et al. found the lifetime prevalence of binge eating to be a bit higher at 5.82%. Again, Hudson et al. did not specify the racial make-up of their sample, so who is included in “women in the general population” is unknown. In addition, The New England Women’s Health Study (NEWHP; Streigel-Moore et al., 2000) also showed that Black women are more likely than White women to report recurrent binge eating (defined as binge eating at least twice per week during the preceding 3 months, as determined by a telephone-administered interview). More specifically, in a community sample of 1,628 Black and 5,741 White women, 4.5% of Black women vs. 2.6% of White women reported binge eating. In both groups, recurrent binge eating was significantly associated with an elevated BMI and with elevated rates of self-reported psychiatric symptoms.

Although it is unknown whether BED and subthreshold binge eating create a continuum of eating behavior, or make up two distinct presentations, current research often combines the two into one category. For the purposes of the current study, BED and subthreshold binge eating will be combined into one category and referred to as “overeating” In addition, “eating disorders” will be used as an umbrella term to refer to AN, BN, BED and subthreshold binge eating together.

What Contributes to Binge Eating?

Because BED and subthreshold binge eating are relative newcomers to the field, there is less known about their presentations and etiologies than that of AN and BN. In the past decade, a rapidly growing literature has documented the clinical significance of overeating patterns in terms of the health and mental health problems commonly reported

by individuals who meet the criteria for this syndrome (e.g., Wilfley, Wilson, & Agras, 2003), but the empirical research conducted on the etiology of overeating behaviors leaves open a range of questions about the disorder. For example, why does overeating occur among Black women at higher rates than other eating disorders? Along similar lines, what role does race play in the etiology of overeating behaviors?

Existing research that begins to lay the foundation for our current understanding of overeating patterns focuses on three main models: 1) the Dietary Restraint Model; 2) the Affect Regulation Model; and 3) the Stress-Diathesis Model. The first two models can be subsumed under the stress-diathesis model, which will be described below.

The Dietary Restraint Model

Dieting is the thinking and planning of how to regulate food intake in an effort to produce weight loss. The dietary restraint model, which links dieting with binge eating (e.g., Greenberg & Harvey, 1986; Polivy & Herman, 1985), is supported by findings that the degree of dietary restraint practiced by an individual is positively associated with the likelihood of binge eating in both laboratory (Herman & Mack, 1975; Hibscher & Herman, 1977; Spencer & Fremouw, 1979) and naturalistic (Hawkins & Clement, 1980; Wardle & Beinart, 1981) settings. But the dietary restraint model is couched in the sociocultural model of eating disorders in that it assumes women diet in order to attain a culturally mandated thin-ideal. As a result, this model may not accurately capture the process by which binge eating develops among all Black women.

The Affect Regulation Model

Unlike the dietary restraint model, which is based in the sociocultural model and assumes an ultimate drive for thinness, the affect regulation model and the stress-

diathesis model have broader applications. These models, which link emotions with eating, have received increased attention in the field of public health because of the recent rise in obesity rates. The models aim to answer what, exactly, regulates food intake, and what leads to regular over-consumption and binge eating? Unlike eating disorders, which are often (inaccurately) thought to affect only young White women, obesity has been repeatedly shown to affect individuals of diverse ages, genders, races and classes and, as noted earlier, obesity has been found to be most prevalent among Black American women (Hedley et al., 2004). For this reason, models that aim to describe the increase in overweight and obesity, such as the affect regulation model and the stress-diathesis model, tend to apply across groups and cultures more effectively than traditional models of eating disorders (e.g., the sociocultural model). Although they do not incorporate a consideration of race and culture specifically, these models can help inform our understanding of binge eating among Black women.

The affect regulation model (e.g., Deaver, Miltenberger, Smyth, Meidinger, & Crosby, 2003) suggests that some individuals binge eat in an effort to provide comfort and distraction from adverse emotions such as anxiety, depression, boredom, anger and loneliness, which have all been shown to precede bingeing episodes (Abraham & Beumont, 1982; Lingswiler, Crowther, & Stephens, 1989; Loro & Orleans, 1981; Powell & Thelen, 1996; Root & Fallon, 1989). The act of bingeing is thought to serve as a (maladaptive) coping mechanism by reducing negative self-awareness, reducing tension, and shifting attention to something unrelated to distressing emotions (Heatherton & Baumeister, 1991). While there may be some reduction in negative affect during and shortly after a binge, the relief is likely to be temporary (McManus & Waller, 1995).

The Stress-Diathesis Model

Consistent with both the dietary restraint model and the affect regulation model, recent research has highlighted the role of stress, such as dietary restraint or negative affect, in eating behaviors (Harrington et al., 2006; Johnson & Wardle, 2005; Striegel-Moore et al., 2007). High levels of stress have been found to be associated with increased food intake (Wardle, Steptoe, Oliver, & Lipsey, 2000; Conner, Fitter, & Fletcher, 1999; O'Connor & O'Connor, 2004; Cartwright et al., 2003) and binge eating (Crowther, Snafner, Bonifazi, & Shepherd, 2001; Freeman & Gil, 2004; Pike et al., 2006; Wolff, Crosby, Roberts, & Whittrock, 2000). In addition, studies show that women who binge eat may perceive their stressors as more intense and emotionally disruptive than women who do not binge eat (Crowther et al., 2001; Hansel & Wittrock, 1997). Unfortunately, these studies do not account for race or culture.

The stress-diathesis model suggests that the pathway to binge eating is likely unique to each individual's personal characteristics, vulnerabilities and exposure to risk factors (Striegel-Moore et al., 2007). O'Connor et al. (2008) found that individuals differ in their level of vulnerability to stress-induced eating and proposed three explanations for the relationship between stress and overeating among vulnerable individuals. First, O'Connor et al. suggest that some individuals learn early on (e.g., from family) to respond to stress by overeating and, as a result, ultimately have the inability to differentiate between hunger and other unpleasant feelings. Second, O'Connor et al. propose the affect regulation model described above – i.e., that overeating may be part of a motivated attempt to escape from self-awareness or negative self-referent appraisals (Heatherton & Baumeister, 1991). So, for example, when confronted with stress, one may

shift their attention to food in order to escape from a negative emotional state. Third, O'Connor et al. propose a physiological theory. More specifically, O'Connor et al. suggest that cortisol reactivity to stress may underlie the stress-eating relationship and individual differences in emotional eating (Epel, Lapidus, McEwen, & Brownell, 2001; Newman, O'Connor, & Conner, 2007).

While the mechanisms between stress and binge eating may differ between individuals, so might the types and levels of stress that they encounter. O'Connor et al. (2008) broadly defines stress as ego-threatening, interpersonal, and work related “events, thoughts, or situations which, when they occur, produce negative feelings such as annoyance, irritation, worry or frustration, and/or make you aware that your goals and plans will be more difficult to achieve” (O'Connor et al., p. S20). Although O'Connor et al. does not account for race or culture, their definition lends itself to a range of life experiences and resulting stresses including race-related stress.

Limited research (Gee, Ro, Gavin, & Takeuchi, 2008; Harrington et al., 2006; O'Neill, 2003; Talleyrand, 2006; Thompson et al., 1994, 1996) has examined the effect of race-related stress specifically on eating disorders and weight among women of color. For example, Thompson et al. conducted in-depth interviews with Black American and Latina women with eating problems. They found that these women consistently reported high rates of trauma and stressful life events (specifically racism and sexism), which they linked to the onset and the maintenance of eating problems. These qualitative findings established the basis for further empirical exploration of the relationship between racism, stress, and eating disorders among women of color. Using quantitative methods, Talleyrand (2002) found that racial stressors were directly related to various forms of

disordered eating behaviors in Black women. These findings support the idea that eating disorder symptoms among Black women may be a response to contextual factors (e.g., racial stressors) as opposed to dietary concerns (Harris & Kuba, 1997; Mastria, 2002; Root, 1990; Smolak & Striegel-Moore, 2001; Thompson, 1994, 1996; Talleyrand, 2006). In another quantitative study, Harrington et al. found a significant relationship between discriminatory stress and binge eating among Black American women.

Talleyrand (2006) proposes a framework based on Clark et al.'s (1999) model of racism, stress and health, which links race-related stress to eating pathology among Black women. Before describing these frameworks, though, it will be useful to define race, racism and related terms, and explore the role racism plays in the physical, psychological and social development of Black people in the United States.

Race, Racism and Related Terms

There is no overall consensus on the definition of race within the scientific literature (Farley, 1988; Helms, Jernigan, & Mascher, 2005), which may reflect a general confusion about race and ethnicity, especially among White Americans who often think of themselves as having no race or ethnicity at all (Helms, 1992). This confusion may be compounded by the plethora of terms describing various aspects of difference and power differentials, which are often used inaccurately and interchangeably. These terms include race, ethnicity, culture, prejudice, discrimination, power and racism, and will be defined for the purposes of this study. Racial identity development and racial socialization, which are central in the process of Black development and have been shown to protect individuals from the negative effects of racism, will also be described.

Race

Jones (1972) suggests that *race* defines social groups based on visible physical difference such as being Black or White. Helms and Cook (1999) point out, though, that race is more complex than just visible difference, and that usually physical characteristics that are used to differentiate racial groups, can be found in other racial groups as well. In fact, it has been shown that within-group variability among members of supposedly discrete racial groups exceeds that of between group variability (Allen & Adams, 1992; Zuckerman, 1990). Nevertheless, in the United States, those who consider themselves to be White have proceeded as if their whiteness were pure and superior (Helms, 2003). So, Helms and Cook propose that race is actually a social construction intended to maintain social norms such as power disparities between groups within the United States. For example in American society, those who are considered White have access to power and resources, while those who are considered Black often do not. Therefore, it is in the interest of White people to maintain racial distinctions and related social inequities in order to maintain power.

In most psychological theory and research, race has been used as a nominal category, which involves the assignment of people to supposedly mutually exclusive racial groups by means of inadequate quasi-biological criteria such as skin color or hair textures (Helms, 1994). A person's racial label is then often used to imply correlated biological and psychological characteristics (e.g., intelligence or self-esteem) beyond phenotype. Correlations between racial labels and biological and psychological characteristics are not theoretically or empirically supported, and can lead to inaccurate, misleading, and harmful assumptions (Helms et al., 2005). Instead, Helms et al. suggest

that race influences a person's psychological characteristics through related external factors, such as a history of racism and oppression as well as sociocultural norms and customs. In line with this suggestion, the current study explored intragroup differences in sociocultural (e.g., experiences of racism), psychological (e.g., experiences of stress), and behavioral (e.g., eating patterns) experiences among self-identified Black American women.

Ethnicity and Culture

Ethnicity and *culture*, although often confused with race, also define social groups. And, while ethnic and cultural groups may both exist within one racial group, ethnic and cultural groups are not necessarily the same (Helms & Cook, 1999). According to Helms and Cook, *ethnicity* refers to the “national, regional or tribal origins of one's oldest remembered ancestors and the customs, traditions and rituals handed down by these ancestors” (p. 19), and *ethnic groups* share these customs and traditions defined by specific geographic locations around the world. *Culture*, on the other hand, refers to values, beliefs, language, rituals, traditions, and other behaviors that are passed from one generation to another within *any* social group (Helms, 1994). So, while ethnic groups can share cultural traditions, those who share cultural traditions do not necessarily make up an ethnic group. In addition, culture can also refer to the dominant society's worldview, which can define a macro-level collective identity (Helms) such as White American mainstream society, which, for example, values independence, freedom and material wealth (among other things). In the current study, participants' ethnic backgrounds were considered within the analysis of results.

Prejudice, Discrimination, Power, and Racism

Prejudice is the belief in the superiority of one's own racial group (i.e., superiority based on physical differences) and *discrimination* is the behavioral manifestation of prejudice (Jones, 1972). Although often used interchangeably with discrimination and prejudice, Jones defines *racism* as a much broader, more complex term. In his definition of racism, Jones captures not only attitudes and behaviors about race and ethnicity, but also the role of power. *Power* is defined as “the possession of control, authority, or influence over others;” the ability to act or produce an effect;” and “physical might” (Jones, p. 117). Jones writes, “racism results from the transformation of prejudice... through the exercise of power against a racial group defined as inferior, by individuals and institutions with the intentional or unintentional support of the entire culture” (p. 117).

Jones (1972) presents a theoretical framework for understanding racism and suggests that racism exists on 3 levels: 1) institutional, 2) individual, and 3) cultural. *Institutional racism* is defined as differential access to goods, services and opportunities in society by race. In the United States, institutionalized racism is normative, sometimes legalized, and often manifests itself as inherited disadvantage. In addition, institutionalized racism is structural and inherent in our institutions. For example, standardized tests, which are often used as the main criteria for admission to institutions of higher education, may be racially biased (Jones). Although Black students repeatedly perform poorly on these tests, they remain the key by which formal educational opportunities (and the privilege that comes with these opportunities) are accessed.

Institutional racism can also have important health consequences. For example, Schulman et al. (1999) found that ethnicity is a strong determinant of physicians' recommendations for critical cardiac assessments for patients experiencing chest pain, even among patients with similar risk factors, clinical features, and economic resources. In this case, institutional racism may have life and death consequences for the health of Black Americans (Clark et al., 1999). Additionally, institutional racism underlies economic disparity between Black and White people in the United States. A lack of financial resources can also lead to poor health outcomes by way of subpar health care, substandard housing and violent communities (e.g., Evans & English, 2002). In addition, low-fat, low-calorie foods, and fresh fruits and vegetables are often expensive or unavailable in poor communities, leaving high fat, high calorie and highly processed foods as the most affordable or available choice (e.g., Villarosa, 1994).

Individual racism is racism that is transmitted on the interpersonal level. It is the belief of the "superiority of one's own race over another (i.e., prejudice), and the behavioral enactments that maintain those superior and inferior positions (i.e., discrimination)" (Jones, 1972, p. 5). Individual racism can range from direct violence (e.g., police brutality) to interpersonal mistrust (e.g., shopkeeper suspicion) to lack of respect (e.g., poor service) (Utsey & Ponterotto, 1996).

Individual racism, which is incessant in the lives of Black Americans living in the United States (Jones, 1972; Utsey & Ponterotto, 1996), has been shown to lead to stress and poor health outcomes (Mays, Cochran, & Barnes, 2007; Clark et al., 1999). The stress of encountering individual racism is thought to set into motion a process of physiological responses (e.g. stress levels, elevated blood pressure and heart rate) and

behavioral responses (e.g., smoking, drinking, binge eating) that eventually result in disease and mortality (Mays et al.). Linkages between individual racism and mental health have also been documented among adult (Jackson & Sellers, 1996; Klonoff, Landrine & Ullman, 1999; Landrine & Klonoff, 1996; Sellers & Shelton, 2003; Utsey, Ponterotto, Reynolds, & Cancelli, 2000) and adolescent (Dubois, Burk-Braxton, Swenson, Tevendale, & Hardesty, 2002; Fisher, Wallace, & Fenton, 2000; Nyborg & Curry, 2003; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003; Simons et al., 2002; Wong et al., 2003) Black populations. Linked with low self-esteem (Fisher et al.; Wong et al.), increased depressive symptomology (e.g., Simons et al., 2002; Wong et al.), psychological distress (e.g., Fisher et al.), feelings of hopelessness (e.g., Nyborg & Curry), anxiety (e.g., Gibbons, Gerrard, Cleveland, Wills, & Brody, 2004), lower life satisfaction (Brown, Wallace, & Williams, 2001) and eating disorders (Talleyrand, 2001; Thompson, 1994, 1996), individual racism exacts a significant emotional toll on Black Americans.

According to Jones (1972), *cultural racism* contains elements of both individual and institutional racism and can be defined as the “individual and institutional expression of the superiority of one’s race’s cultural heritage over that of another race” (Jones, p. 6). For example, it is cultural racism when the achievements of an entire race of people are ignored in the American educational system, or when the expression of cultural differences is unrewarded or interpreted negatively. Fueled by the assumption that White Western-European culture is best (Jones), it is within the context of cultural racism that one’s “blackness, their heritage, and their cultural uniqueness” (Jones, p. 7) is devalued and ignored.

All forms of racism can be internalized, and have been shown to carry significant negative consequences for Black Americans in the United States. The acceptance of negative messages about one's own race can lead to attempts to look white, rejecting ancestral culture, dropping out of school and risky health practices (C. P. Jones, 2000). In addition, Taylor (1992) asserts that internalized racism is consistently associated with poorer psychosocial functioning in Black American adults including lower self-esteem, more impaired relationships with other Black Americans, and increased levels of depression, aggression, alcohol consumption and criminal behavior. As noted earlier, internalized racism can also leave an individual vulnerable to a White media-driven pressure to be thin, body dissatisfaction, dieting and to developing AN or BN (Abrams et al., 1993; Akan & Grilo, 1995; Bessellieu, 1997; Dinsmore & Mallinckrodt, 1996; Rucker & Cash, 1992; Smolak & Striegel-Moore, 2001; Talleyrand, 1998 as cited in Talleyrand, 2002, 2006).

While all forms of racism can lead to concerning health outcomes, the current study will focus specifically on the relationship between the stress of individual racism and binge eating among Black women. Before presenting frameworks that help to explain this relationship, the role of racism in Black development will be explored, and buffers of racism will be presented.

Racism and Development

Racism begins to impact Black Americans early in life and continues to impact them throughout their lifespan. Children as young as six years old have the ability to make attributions to discrimination, and by early adolescence, have a sophisticated understanding of both individual-level and institutional level discrimination (Brown &

Bigler, 2005; McKown, 2004). Research suggests that by age ten, 80% of Black American children, and 63% of White and Asian children have an awareness of racism, and older adolescents perceive more experiences with discrimination than children in early adolescence (Brown & Bigler; Greene, Way, & Pahl, 2006). This exposure influences identity development (Bowman, 1991) and, as described previously, can influence mental health, psychological functioning, and physical health.

Just as many Black American adolescents manifest awareness of racial barriers, they can also develop the resolve to overcome them (Nicolas et al., 2008). Although there is a large body of research on resiliency (i.e, positive adaptation despite negative environmental circumstances), much of the literature fails to include minority youths or does not consider their unique racial and environmental circumstances. While identity development is a major task for all adolescents, for adolescents who are members of racial or ethnic minorities, this task is particularly complicated given the racist environments that they must navigate (Spencer & Markstrom-Adams, 1990). Racial identity and racial socialization have been linked to positive development and psychological well-being among Black American adolescents despite facing negative racial stereotypes (Bowman & Howard, 1985; Nicolas et al.; Peters, 1985; Stevenson, 1994). For example, in a study of 297 African American adolescents, McCreary, Salvin, and Berry (1996) found that high racial identity was a significant factor in handling stress successfully, as well as in avoiding problem behaviors.

Racial Identity

Helms (1990) defines racial identity as “one's perception that he or she shares a common racial heritage with a particular group” (p. 3), and Cross, Parham, and Helms

(1991) posit that one of the functions of racial identity is “to defend and protect a person from psychological insults, and, where possible, to warn of impending psychological attacks that stem from having to live in a racist society” (p. 328). Studies indicate that stronger identification with one’s racial group buffers the negative effects of racial discrimination on Black American adolescents’ well-being (Arroyo & Zigler, 1995; Bowman & Howard, 1985; Boykin & Toms, 1985; Caldwell, Sellers, Bernat, & Zimmerman, 2004; Cross et al., 1999; Hughes, 2003; Phinney & Chavira, 1995; Rowley et al., 2006; Sellers & Shelton, 2003; Stevenson, 1994; Stevenson et al., 2002; Wong et al., 2003). Racial identity has been linked with positive outcomes such as self-esteem (Buckley & Carter, 2005; Crocker, Luhtanen, Blaine, & Broadnax, 1994; Phinney & Chavira, 1992; Rowley, Sellers, Chavous, & Smith, 1998), lower psychological stress (Caldwell et al.), lower depressive symptomatology (Yip, Seaton, & Sellers, 2006), psychological well-being (Seaton, Scottham, & Sellers, 2006), and greater school adjustment (Chavous et al., 2003; Ford & Harris, 1997; Oyserman, Harrison, & Bybee, 2001; Smith, Atkins, & Connell, 2003) among Black adolescents. In addition, Black American women’s use of the least sophisticated racial identity schema (i.e, an idealization of White culture), which leaves an individual vulnerable to internalized racism, has been linked to symptoms of AN and BN (Abrams et al., 1993; Bessellieu, 1997; Talleyrand, 1998, as cited in Talleyrand, 1994, 1996).

Racial Socialization

According to Stevenson (1995), positive racial identity develops through racial awareness, which is facilitated by racial socialization (Plummer, 1995). Hughes (2003) defines racial socialization as “the transmission of parents’ world views about race and

ethnicity to children by way of subtle, overt, deliberate and unintended mechanisms” (p. 15). According to Hughes and Chen (1997), parents may be most likely to engage in racial socialization activities when their children become adolescents and begin to face discriminatory situations. For example, as Black adolescents become more autonomous, they begin to spend more of their free time outside of the home and in public places (e.g., malls, restaurants). In these public places they are more likely to interact with individuals and institutions that may discriminate against them (Fisher et al., 2000; Hughes et al., 2006). Parents’ attempts to help their child cope with experiences with racial discrimination often result in racial socialization, (i.e., the transmission of messages about the significance and meaning of race), which has become recognized as a primary mechanism by which Black youths develop a positive racial identity and become prepared to cope with racism (Bowman & Howard, 1985; Boykin & Toms, 1985; Hughes; Phinney & Chavira, 1995; Stevenson, 1994).

Recent research has linked racial socialization with positive developmental outcomes among Black adolescents and young adults (e.g., Constantine & Blackmon, 2002; Fischer & Shaw, 1999; Neblett et al., 2008; Stevenson, 1997; Sanders, 1997; Wordlaw, 2000). For example, Wordlaw found that higher levels of racial socialization were related to higher self-esteem and social competence in African American female undergraduates attending the University of California at Berkeley. Fischer and Shaw reported that greater experience with racial socialization messages helped to buffer the negative effects of racism on mental health. Constantine and Blackmon found evidence that racial socialization messages associated with racial pride, racial barrier messages, and egalitarian messages were associated with a variety of domains of self-esteem (e.g.,

home, peer and school). In addition, racial socialization messages promoting cultural pride and a knowledge of African American heritage specifically have been found to be significantly related to resiliency, racial identity development, and positive cognitive and socioemotional outcomes among young Black American adults (Brown, 2008).

In a longitudinal study, which accounted for the interactive nature of the racial socialization process, Neblett et al. (2008) found that certain patterns of racial socialization buffered perceived stress due to racism. Findings suggest that messages that emphasize racial pride and self worth may provide Black American adolescents with a strong foundation upon which to build their personal self-esteem as well as a counterweight to the disparaging messages they may receive about their racial group from the larger society. Messages regarding the existence of racial barriers may also help adolescents to appropriately attribute unfair treatment that they may receive because of their race to external sources thus reducing their risk of internalizing negative mood states such as depression.

Depending on their content, racial socialization messages can also have a detrimental effect on Black youths. For example, Constantine and Blackmon (2002) found that although socialization messages reinforcing cultural pride were positively correlated with Black adolescents peer self-esteem, socialization messages endorsing mainstream values were negatively associated with school self-esteem. In other words, adopting White values could be detrimental to a Black youth's academic self-efficacy.

Using qualitative research, Ward (2007) examined the experience of racial socialization among Black female adolescents. She argued that much of the work of adolescence for Black girls is to explore and integrate the multiple identities of race, class

and gender, and that addressing racism and sexism in an open and forthright manner is essential to successfully achieving these developmental tasks and building psychological health among Black girls and women. According to Ward (1996), Black girls and women learn to discern their own personal and cultural strengths by understanding their parents' stories of survival, growth and resistance. Ward found that racial socialization offers Black girls a corrective to the false, incomplete and misunderstood interpretations of what it means to be Black in the United States, and may protect them from maladaptive coping strategies such as academic underachievement, violence, substance abuse, overeating, and irresponsible sexual behavior.

Although Ward (2007) suggests that racial socialization may protect Black girls from overeating, to date, racial socialization has not been empirically examined in relation to eating disorders. Because racial socialization is so important for the development of a healthy racial identity development over the lifespan (Phinney, 1990), and has been linked with so many positive psychological outcomes, this study examined the relationship between racial socialization and eating disorders, and proposed that perceived stress may mediate this relationship. In other words, positive racial socialization may protect a young Black woman from developing an eating disorder by reducing the perceived stress associated with racism.

A Framework: Racism, Stress and Overeating

A number of studies described earlier suggest that the stress of racism is linked with the development of eating disorders, especially binge eating (Thompson, 1994, 1996; Talleyrand, 2002; Harrington et al., 2006). This body of research is consistent with a growing body of literature linking race-related stress to a host of adverse physical and

mental health outcomes, such as hypertension, depressive and anxiety symptoms, and feelings of inadequacy and low self-esteem (e.g., Clark, 2003; Clark et al., 1999; Cochran & Mays, 1993; Everson-Rose & Lewis, 2005; Gyll, Matthews, & Bromberger, 2001; Harrell, Halls, & Taliaferro, 2003; Krieger & Sidney, 1996; Landrine & Klonoff, 1996; Mays, 1995; Mays, Coleman, & Jackson, 1996; McEwen, 2000; Walker, Mays, & Warren, 2004; Williams, Neighbors, & Jackson, 2003). As a result, there are a number of proposed pathways that link racism to health and health behaviors, which may help to explain the process by which racism is related to binge eating.

Clark et al. (1999) propose a model that describes the processes underlying the relationship between the stress of everyday racism and general health among Black Americans, which helps to elucidate how racism, stress and eating disorders may be related. Clark et al.'s model builds on the general stress-coping model proposed by Lazarus and Folkman (1984), which emphasizes individual difference in evaluations of and responses to potentially stressful events.

Lazarus and Folkman (1984) write, "psychological stress... is a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p. 21). They go on to explain that one's response to this stress, or coping, can be defined as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person (p. 141). In addition, they write that coping "should not be equated with mastery over the environment; many sources of stress cannot be mastered, and effective coping under

these conditions is that which allows the person to tolerate, minimize, accept, or ignore what cannot be mastered” (p. 140).

Everyday racism is one potential source of stress that is constant and persistent in the lives of Black Americans. Based on Lazarus and Folkman’s model, effective coping under racist conditions would merely allow a Black American to “tolerate, minimize, accept or ignore” the situation. Clark et al. (1999) is more specific and suggests that racism can result in a variety of psychological and physiological stress responses among Black Americans including anger, paranoia, anxiety, helplessness-hopelessness, frustration, resentment, and fear (Armstead, Lawler, Gorden, & Cross, 1989; Bullock & Houston, 1987). They argue that, in turn, these stress responses influence the use of subsequent coping responses (Burchfield, 1979; Lazarus & Folkman, 1984; Pearlin, 1989) such as anger suppression, hostility, verbal expression of the anger, or the use of food, alcohol or substances to blunt angry feelings or to temporarily feel in control (e.g., Bullock & Houston). These coping responses are, over time, thought to influence health outcomes positively or negatively depending on the nature of the response. For example, Krieger and Sidney (1996) suggest that denial may be one important coping response members of ethnic minority groups may use in dealing with racism that may have health consequences such as elevated blood pressure.

Using Clark et al.’s model, Talleyrand (2006) suggests that eating disorders may serve as a coping response to the stress of everyday racism among Black American women (Harris & Kuba, 1997; Mastria, 2002; Root, 1990; Smolak & Striegel-Moore, 2001; Thompson, 1994, 1996). Talleyrand points out that as members of two low-status groups (i.e., race and gender), Black American women face the double jeopardy of

racism and sexism in the United States. Efforts to respond to these stressors are thought to provide the motivation for the development and maintenance of eating disorders - especially binge eating (Harrington et al., 2006; Talleyrand, 2002, 2006; Thompson, 1994, 1996). The use of food in response to stress is one coping strategy that has been considered typical of Black women, and using food as comfort and to mask psychological distress is consistent with Black American cultural norms (Villarosa, 1994).

The Current Study

The current study aims to further integrate race and culture into the existing understanding of eating disorders. Although Black women have been found to engage in binge eating at rates as high or higher than White women in the United States (e.g. Taylor et al., 2007), few studies exist that explore how race-related factors are related to the etiology of binge eating among Black women. While the dietary restraint model has been used to explain binge eating among White and Black women who restrict in an attempt to lose weight, there is little understanding of Black women who do not restrict in an attempt to lose weight, but do engage in patterns of overeating. The current study aims to begin to develop this understanding.

Using O'Connor et al.'s (2008) model of stress and eating disorders, Clark et al.'s (1999) model of racism, stress and health, and Talleyrand's (2006) model of racism, stress, and eating disorders, the current study aims to describe the relationship between perceived racism, perceived stress, and patterns of overeating among Black American women. In addition, the literature is just beginning to explore sources of cultural strengths that help to promote healthy outcomes among Black Americans despite a racist environment (Brown, 2008; Constantine & Blackmon, 2002; Harris-Britt, Valrie, Kurtz-

Costes, & Rowley, 2007; Nasim, Roberts, Harrell, & Young, 2005; Utsey, Hook, Fischer, & Belvet, 2008; Wallace & Fisher, 2007). The current study not only aims to explore patterns of overeating as a maladaptive response to the stress of racism among Black women, but also to identify racial socialization as a potential source of strength that may buffer this relationship.

Building on prior research that links perceived stress with binge eating within the general population (O'Connor et al., 2008), the current study assessed the hypothesis that perceived racism, which has been shown to increase perceived stress among Black Americans (Clark et al., 1999; Mays et al., 2007; Utsey & Ponterotto, 1996), will, as a result, lead to increased binge eating and other patterns of overeating among Black women. In addition, building on prior research that suggests that racial socialization may buffer perceived racism (Bowman & Howard, 1985; Neblett et al., 2008; Peters, 1985; Stevenson, 1994) and reduce perceived stress among Black Americans (Neblett et al., 2008), the current study also assessed the hypothesis that racial socialization may decrease binge eating and other patterns of overeating among Black women, buffering the proposed relationship between perceived racism and binge eating.

The next chapter will describe the methods by which the relationships between perceived racism, racial socialization, perceived stress and patterns of overeating were explored. The following research questions were explored in this study.

Research Questions

Question 1. Is perceived racism significantly and positively related to patterns of overeating among Black American women?

Question 2. Does racial socialization moderate the relationship between perceived racism and patterns of overeating such that increased racial socialization decreases the strength and/or direction of the relationship between perceived racism and overeating?

Question 3. Does perceived stress mediate the relationship between perceived racism and patterns of overeating such that increased perceived racism leads to increased perceived stress, which leads to increased overeating?

Question 4. Is racial socialization significantly and positively related to patterns of overeating among Black American women?

Question 5. Does perceived stress mediate the relationship between racial socialization and patterns of overeating such that increased racial socialization leads to decreased perceived stress, which leads to decreased overeating?

CHAPTER III

Chapter III will describe the research design, participants, procedures, measures, data analysis strategies, questions, and hypotheses that were used to explore the questions proposed in the current study.

Research Design

The current study employed a cross-sectional research design. Inferences were made based upon variations in the outcome variables (binge eating and other patterns of overeating) that could be systematically linked to differences in the independent variables (everyday racism and racial socialization) and mediating variable (perceived stress).

Participants and Procedures

The sample for the current study was obtained between July and September of 2009, and between January and March of 2010. Between July and September 2009, 147 participants were recruited via e-mail (see Appendix A) through the Conference on Multicultural Affairs of the Association of Jesuit Colleges and Universities, and through the AHANA student program at Boston College in accordance with the universities' institutional review board policies. Participants were included in this study if they consented to participate, identified themselves as Black American women over the age of 18, and if they completed at least 80% of each measure included in this study. While all respondents met the criteria for age, race, and gender, 26 respondents (21%) had excessive missing data. After accounting for missing data, 121 participants were obtained during this time frame, the majority of whom were between ages 18 and 21. In order to increase the study's sample size and broaden the sample's age range, 103 participants were recruited between January and March 2010 through the networks of public health

professionals working in the Boston area interested in the current study. Again, while all respondents met the criteria for age, race, and gender, 23 respondents (22%) had excessive missing data. After accounting for missing data, 80 participants were obtained during this time frame, the majority of whom were between the ages of 22 and 73. A final sample of 201 participants was obtained, ensuring sufficient power (.80) according to Cohen (1992), who recommends approximately 30 participants per variable (i.e., 120 participants for four independent variables). Approximately 46% of the final sample was age 18-21 years, approximately 29% of the sample was age 22-40 years, and approximately 25% of the sample was age 41-73 years. The mean age of the sample was 30 years old (SD = 14.04).

According to medical guidelines, approximately 1% of the sample was “underweight,” 43% of the sample is “normal weight,” 33% of the sample was “overweight,” and 22% of the sample was “obese” (Center for Disease Control, 2009). BMI was calculated using self-reported participant weight and height ($BMI = 703 \times \frac{\text{weight in pounds}}{(\text{height in inches})^2}$). The mean BMI of the sample was 27 (SD = 6.60), which is considered “overweight.” The sample’s rate of obesity (22%) is lower than the estimated rate of obesity among Black American women in the United States (49.6%) based on data from the National Health and Nutrition Examination Survey (U.S. Department of Health and Human Services, 2008).

While all participants identified themselves as Black, 12% of respondents also identified themselves as bi- or multi-racial. Approximately 87% of respondents were born in the United States, while 13% were born in another country including Haiti, Liberia,

Central America, Trinidad and Tobago, Ethiopia, Nigeria, Jamaica, Guyana, Ghana, Cape Verde, Zimbabwe, the United Kingdom, Cameroon, the West Indies, and St. Vincent.

Participants' ethnicities varied greatly and fell into four main categories: African-American; Afro-Caribbean and/or Central American; Mixed African-American and Afro-Caribbean and/or Central American; and Other, which included African as well as mixed ethnicities excluding the African-American and Afro-Caribbean mix. Approximately 57% of participants identified themselves as African-American. Approximately 25% of participants identified themselves as Afro-Caribbean and/or Central American. Approximately 8% of participants identified themselves as Mixed African-American and Afro-Caribbean and/or Central American, while approximately 10% of participants identified themselves as African or mixed ethnicity excluding the African-American and Afro-Caribbean mix.

In their current households, approximately 2% of participants considered themselves upper class, approximately 17% of participants considered themselves upper middle class, approximately 42% of the sample considered themselves middle class, approximately 25% of the sample considered themselves lower middle class, and approximately 14% of the sample considered themselves lower class. Approximately 60% of the sample were currently in school, while 40% were not. Of the respondents who were in school, 83% were in college (approximately 18% freshman, 17% sophomores, 23% juniors, and 25% seniors); 13% were graduate students, and 5% were in other types of school including trade school and informal post-graduate study. Of the respondents who were not in school, approximately 5% completed high school only, approximately 37% completed college only, approximately 40% completed a master's degree,

approximately 8% completed a Ph.D, MD, or JD, and approximately 10% completed something other including some college, an associate degree, and a certificate program.

Procedures

Participants were invited to participate in the current study via an IRB approved e-mail (see Appendix B) sent by administrators of the aforementioned programs and interested public health professionals. Participants were asked to fill out a questionnaire online in order to provide them with as much privacy as possible, as well as the opportunity to complete the questionnaire at a convenient time. Informed consent (see Appendix C) was obtained through an introduction page preceding the online questionnaire. Only after granting consent to participate were participants able to access the online questionnaire. All data were anonymous.

Incentives to participate in the study were offered through a raffle. Each participant who took the survey and chose to enter the raffle provided her name and e-mail address to be contacted if she was a winner. This information was stored in a separate database and was not be able to be linked with answers to the survey in order to protect confidentiality and anonymity. Raffle prizes included one of eight prizes: a \$100 gift certificate to Spafinder, which can be used at over 4000 spas worldwide; one of two \$50 gift certificates to amazon.com; and one of five \$25 American Express gift cards. Once all data were collected, winners were selected randomly and the prizes were awarded via e-mail. All participants who provided an e-mail address received a thank you note letting them know that the raffle had been completed.

Measures

The following measures were administered on-line to assess the variables being examined in the current study: A Demographic Questionnaire, the Everyday Discrimination Scale, the Teenager Experience of Racial Socialization Scale, the Perceived Stress Scale, the Binge Eating Scale, and the Yale Eating Pattern Questionnaire. All measures were self-report and solicited information on everyday experiences of perceived racism, experiences of parental racial socialization, perceived stress, disinhibition regarding food, patterns of overeating, and binge eating. Each measure will be discussed in detail below and are included in Appendix D. In total, 85 items were asked, and the questionnaire took participants approximately 20 minutes to complete.

Demographic Questionnaire. Based on the demographic questionnaire developed by Talleyrand (2002), this questionnaire consists of three inclusion items: age, gender, and race. These items were used to determine whether participants should be included in the study. Other categorical variables such as ethnicity, birthplace, and socioeconomic status were collected in order to describe the sample and to assess whether significant differences existed in the study variables as a function of the demographic variables.

Everyday Discrimination Scale. The Everyday Discrimination Scale (Williams, Yu, Jackson, & Anderson, 1997) is a 13-item measure used to assess chronic experiences of racism that have occurred in the prior year. This measure has been found to be correlated with measures of institutional racism (Hughes, 2003; Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005) suggesting that it taps into the discriminatory experiences of people of color (Seaton, Caldwell, Sellers, & Jackson, 2008).

While the Everyday Discrimination Scale was developed and normed on adult samples, Seaton et al. (2008) and Clark, Coleman, and Novak (2004) have found the scale to be appropriate for use with adolescent samples as well. Among adolescents Clark et al. found that the measure is correlated with internalizing (e.g., “I feel that no one loves me”) and externalizing (e.g., “I argue a lot) symptoms as measured by the Child Behaviour Checklist-Youth Self-Report Form (CBCL-YSR, Achenbach, Howell, Quay, & Conners, 1991). Reliability coefficients of the Everyday Discrimination Scale used with Black adult and adolescent samples were found to be consistently over .85 (Clark et al.; Krieger et al., 2005; Williams et al., 1997; Seaton et al.).

The original stem question for the Everyday Discrimination Scale is, “In your day to day life, how often have any of the following things happened to you?” Clark et al. (2004) modified this question in order to prime adolescent respondents to think about race. Clark et al. changed the question to, “In your day to day life, how often have any of the following things happened to you *because of your race?*” Although the original measure did not prime the respondent to think about race specifically, Black Americans still reported significantly more unfair treatment on the scale compared to Whites (Deitch et al., 2003), suggesting that the Everyday Discrimination Scale measures racial discrimination whether the respondent is primed to think about race or not. Nevertheless, the current study used Clark et al.’s modified stem question since part of the study sample was young adults close in age to adolescents.

Sample items of the Everyday Discrimination Scale include: “People act as if they think you are dishonest” and “You are followed around in stores.” The frequency response scale ranges from 1 (*never*) to 6 (*almost everyday*), and reports of experiencing

each event are counted to capture the number of discriminatory events that occurred within the previous year. Specifically, the responses are summed in order to indicate the frequency of discriminatory events and scores range from 0-78. Higher scores indicate a greater frequency of racist events that occurred in the past year.

Teenager Experience of Racial Socialization Scale. The Teenager Experience of Racial Socialization scale (TERS, Stevenson et al., 2002) measures how frequently respondents have received verbal or nonverbal messages from their parents or guardians regarding race, culture and race-related injustices. This measure presupposes proactive and protective aspects to parenting strategies in families of color (Stevenson et al.).

The TERS is a 40-item measure intended to assess five domains determined by Stevenson et al. (2002) through factor analysis. These domains reflect major themes in the psychological literature regarding the racial socialization of youths and include: (1) Cultural Coping with Antagonism, which describes messages that teach the importance of successfully surviving racial hostility and the role of spirituality and religion in coping, (2) Cultural Pride Reinforcement, which describes messages that teach pride and knowledge about the adolescent's culture, (3) Cultural Appreciation of Legacy, which describes messages that teach the importance of knowing one's heritage, (4) Cultural Alertness to Discrimination, which describes messages that teach awareness of racism and race relations, and (5) Cultural Endorsement of the Mainstream, which describes messages that teach the relative importance of the majority culture's values.

According to Stevenson et al. (2002), the TERS is valid both as a unidimensional measure of racial socialization, and as a more specific measure of distinct types of racial socialization. For the current study, the Cultural Pride Reinforcement scale (CPR) was

used because it has been shown to be consistently correlated with psychological health among Black adolescents (e.g., Brown, 2008; Harris-Britt et al., 2007; Stevenson, 1994; Stevenson, 1997). Among African American adolescents, Stevenson et al. (2002) found the Cronbach's alpha for the CPR scale to be .83.

The TERS uses a 3-point frequency scale response format ranging from *never* (1) to *lots of times* (3). The CPR scale consists of nine items that endorse the teaching of pride and knowledge of African American culture to adolescents (e.g., "You should be proud to be Black"). Total scores are obtained by summing the numerical responses from all items, and higher scores indicate more experiences of racial socialization.

Perceived Stress Scale. The Perceived Stress Scale (PSS, Cohen, Karmarck, & Mermelstein, 1983) consists of 14 items designed to assess the degree to which situations in one's life are appraised as unpredictable, uncontrollable, and overloading (e.g., "In the last month, how often have you felt that you were able to control the important things in your life?") - three issues that are repeatedly found to be central components of the experience of stress (Averill, 1973; Cohen, 1988; Glass & Singer, 1973; Lazarus, 1966).

The PSS has been correlated with life-event scores, depressive and physical symptomology, utilization of health services, social anxiety and smoking-reduction maintenance, and has also been shown to measure an independent construct (Cohen et al., 1983). Unlike life-event scales, the PSS is sensitive to chronic stress deriving from ongoing life circumstances (e.g., racism), not just event-specific stress. In addition, the PSS is a better predictor of outcomes (e.g., disease) than life-event scales (Cohen et al.). Cohen et al. suggest use of the PSS to examine the role of appraised stress in the etiology of disease and behavioral disorders (e.g. binge eating).

The PSS uses a 5-point frequency scale response format ranging from *never* (0) to *very often* (4). Total scores are obtained by reversing scores on seven positive items, and then summing scores across all 14 items. Higher scores indicate higher levels of perceived stress (scores range from 0-56). In two samples of college students and in a sample of participants in a community smoking-cessation program, Cohen et al. (1983) found internal consistencies of the PSS to be .84, .85, and .86 respectively. Cohen et al suggest that their data are from restricted samples, in that they are younger, more educated, and contain fewer minority members than the general population.

Binge Eating Scale. The Binge Eating Scale (BES, Gormally, Black, Daston, & Rardin, 1982) uses 16 items to assess the severity of binge eating. The scale was originally designed to assess the experience of binge eating in obese individuals, but has been used with other populations. The BES measures the behavioral aspects of binge eating episodes as well as the associated feelings and thoughts. The measure includes 8 questions about the behavioral manifestations of binge eating (e.g., eating in secret, overeating until nauseous), and 8 questions about the cognitive and emotional aspects of binge eating (e.g., feelings of lack of control and guilt, preoccupation with restraint of eating).

The BES provides a global score of eating disturbance based on the sum of the weights for the 16 items. The characteristics of binge eating used in the measure were derived from clinical observation and DSM criteria. Each of the 16 questions presents three or four options, representing different levels of severity for a particular binge eating characteristic. For example, Question 2 presents the following options: 1) I don't have any difficulty eating slowly in the proper manner; 2) Although I seem to "gobble down"

foods, I don't end up feeling stuffed because of eating too much; 3) At times, I tend to eat quickly, and then, I feel uncomfortably full afterwards; 4) I have the habit of bolting down my food, without really chewing it. When this happens I usually feel uncomfortably stuffed because I've eating too much. Participants are asked to select the best statement that reflects their own experience. Each option is assigned a weight (0-3), which reflects the binge severity of the statement (0 = no binge eating problems; 3 = severe binge eating problems). The scale is scored by summing the individual weights for all 16 items to derive a total score ranging from 0 to 48. Higher scores indicate more severe binge eating problems.

The BES, which was originally normed on White, middle class overweight men ($n = 15$) and women ($n = 97$) between the ages of 24 and 67 years of age, has been found to discriminate between those with no, moderate, and severe binge eating problems. In the development of this measure, scores on the BES were compared with severity of binge eating ratings made by trained interviewers and showed strong concurrent validity. The suggested cutoffs to diagnose clinical levels of binge eating problems is a total score of 27 or higher (Gormally et al., 1982), while 17 or less has been shown to be indicative of no problems with binge eating. The BES has also yielded strong internal consistency. Because of the design of the measure, the use of Cronbach's alpha to determine the internal consistency is not appropriate. Instead, the authors determined internal consistency in the following manner. The participants' total scale scores were compared with the weighted response of each item. Internal consistency was demonstrated for each item by evidence that those who endorsed the answers with higher weights also had higher scores overall. The authors used a Kruskal-Wallis analysis of variance of ranked

data to compare the groups of scores. All tests of significance for the 16 items were above 9.1 ($p < .01$) indicating sufficient internal consistency for the measure.

Yale Eating Pattern Questionnaire. The Yale Eating Pattern questionnaire (YEPQ, Kristeller & Rodin, 1989) is designed to measure the broad spectrum of eating patterns within a non-clinical population. It aims to measure abnormalities of food intake regulation, as is seen among individuals who may be vulnerable to becoming obese or developing eating disorders. The measure is comprised of eight scales, which create a multivariate taxonomy of eating behavior, and two scales, which capture the respondent's understanding of their weight. The scales include: (1) Uninhibited, (2) Oversnacking, (3) Binging, (4) Dieting, (5) Satiation: Full, (6) Satiation, Nausea, (7) Satiation: Guilty, (8) Attributions to physical causes of weight problems, and (9) Attributions to emotional causes of weight problems.

The YEPQ uses a 5-point frequency scale response format ranging from *never* (0) to *very often* (4). Total scores are obtained by reversing scores on two items within the Uninhibited scale, and then summing scores across all scale items. Three scales, the Uninhibited scale, the Oversnacking scale, and the Binging scale, will be used in the current study. For the YEPQ Uninhibited scale, higher scores indicate lower levels of inhibition around food, which may lead to overeating. For the Oversnacking, Binging, and Total scales, higher scores indicated lower levels of restraint around food and higher levels of overeating. The Uninhibited scale consists of nine items (e.g., I'm willing to make a special trip to the store or bake something to satisfy my cravings), which reflect enjoyment of food and eating, and discomfort produced by lack of food. No negative self-attributions exist in the Uninhibited Scale. The Oversnacking scale consists of 12 items

(e.g., When I am bored, I eat for something to do), which reflect the role snacking plays in the respondents' overall eating patterns. The Binging scale consists of 13 items (e.g., I have an uncontrollable urge to eat even to the point of making myself sick), which reflect a sense of being out of control around food. Unlike the Uninhibited scale, the Oversnacking and Binging scales do include negative self-attributions (e.g., "snacking is a big problem for me").

Among a sample of mainly White college students (116 females and 70 males), Kristeller and Rodin (1989) found the Cronbach's alpha of the Uninhibited scale to be .69, the Cronbach's alpha of the Oversnacking scale to be .78, and the Cronbach's alpha of the Binging scale to be .83. Kristeller and Rodin did not provide an Cronbach's alpha for the scales used together as a total scale. In addition, Cleary and Crafti (2007) found the Cronbach's alphas of the Binging and Oversnacking scales to be high (alpha = .88) among Australian first year psychology students. Few, if any, other studies have used the YEPQ scales, so no information exists regarding the internal consistencies of these scales when used with diverse populations.

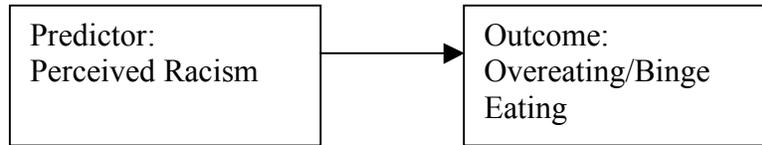
Research Hypotheses

This study assessed the following hypotheses:

1. Given that previous studies (e.g., Harrington et al., 2006; Talleyrand, 2001, 2006; Thompson, 1994, 1996) have found that racism is positively related to binge eating and other patterns of overeating:
 - a. It was proposed that higher levels of perceived racism will predict higher levels of overeating.

- b. It was proposed that lower levels of perceived racism will predict lower levels of overeating.

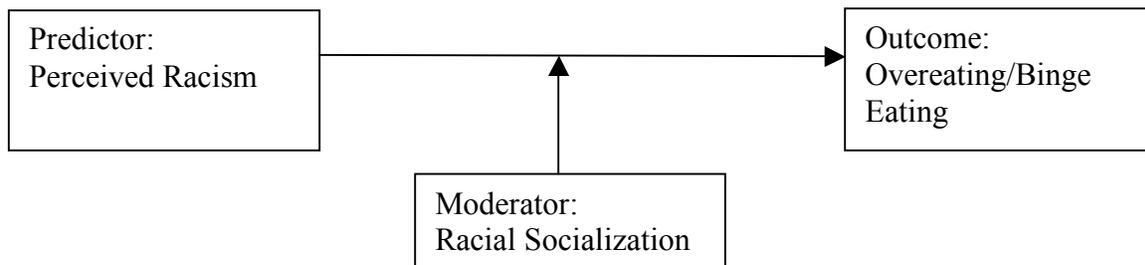
Model 1: Perceived Racism and Overeating/Binge Eating



2. Given that previous studies have found that racial socialization may buffer the negative effects of perceived racism (e.g., Neblett et al., 2008):

- a. It was proposed that racial socialization will moderate the relationship between perceived racism and overeating.

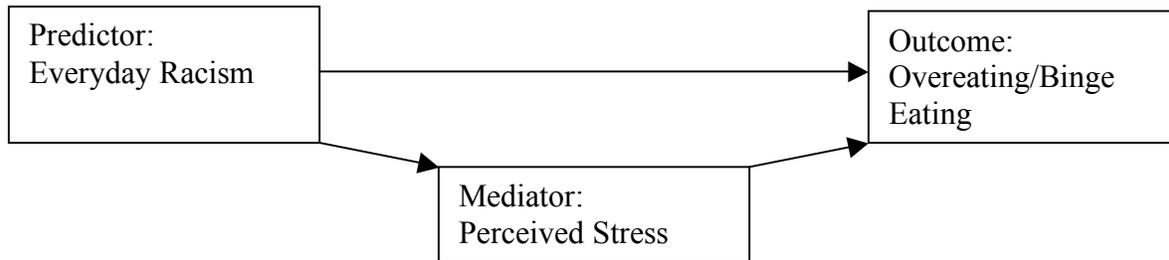
Model 2: Perceived Racism, Racial Socialization and Overeating/Binge Eating



3. Given that previous studies have found that perceived stress is positively related to both racism (e.g., Clark et al., 1999; Mays et al., 2007; Utsey & Ponterotto, 1996) and overeating (e.g., O'Connor et al., 2008):

- a. It was proposed that perceived stress will mediate the relationship between perceived racism and overeating such that increased racism will lead to increased stress, which will lead to increased overeating.

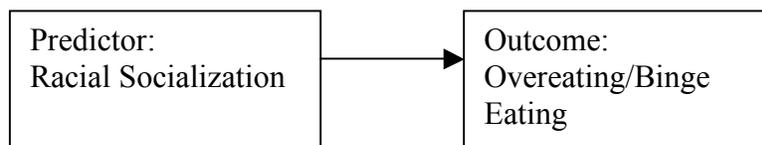
Model 3: Everyday Racism, Perceived Stress, and Binge Eating



4. The relationship between racial socialization and overeating and binge eating has not yet been explored. Given findings that suggest that racial socialization supports positive development (e.g., Brown, 2008; Harris-Britt et al., 2007; Stevenson, 1994; Stevenson et al., 1997), though, racial socialization was expected to reduce overeating and binge eating:

- a. It was proposed that higher levels of racial socialization will predict lower levels of overeating.
- b. It was proposed that lower levels of racial socialization will predict lower levels of overeating.

Model 4: Perceived Racism and Overeating/Binge Eating

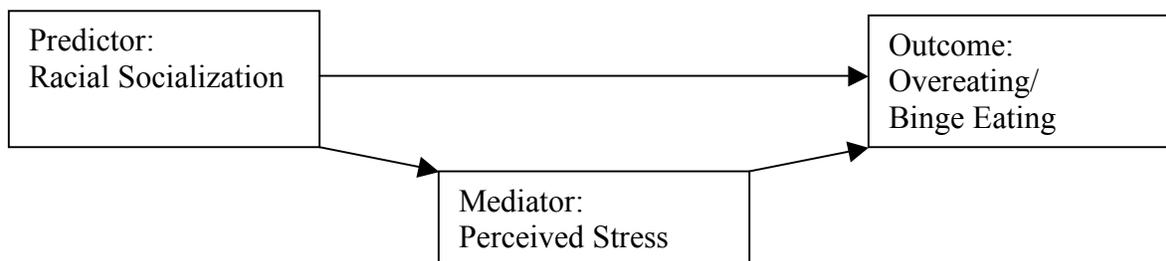


5. Given that previous studies have found that perceived stress is negatively related to racial socialization (e.g., Neblett et al., 2008) and positively related to overeating and binge eating (e.g., O'Connor et al., 2008):

- a. It was proposed that perceived stress will mediate the relationship between racial socialization and overeating and binge eating such that

increased racial socialization will lead to decreased stress, which will lead to decreased overeating and binge eating.

Model 5: Racial Socialization, Perceived Stress, and Overeating/Binge Eating



CHAPTER IV

Chapter IV presents results of the current study. The inclusion criteria for individual cases and the handling of missing data will be presented first. Descriptive findings for each measure and the assessment of assumptions of normality will be presented second. Relationships between demographic and study variables will be presented third. Lastly, each hypothesis will be tested and the results will be presented.

Inclusion Criteria and Missing Data

As noted in Chapter III, participants were included in this study if they consented to participate, identified themselves as Black American women over the age of 18, and if they completed at least 80% of each measure included in this study. In addition, participant responses were analyzed for excessive scores or univariate outliers. Tabachnick and Fidell (1989) define univariate outliers as cases with standardized scores in excess of 3.67 ($p < .001$, two-tailed test). A z-score was computed for each participant's scale scores. Case 20 was found to have a BES standardized scale score of 5.38, exceeding the cutoff score of 3.67. In samples with more than 100 cases, a few scores in excess of +/- 3.00 can be expected by chance (Stevens, 1992). For this reason Case 20, an 18 year old Haitian American women who reported being in the lowest category of SES, and the highest category of BMI (obese), was retained within the data set for further analysis.

To address missing data within a particular scale, the mean of each respondent's scale totals (total scale scores divided by the number of items answered by the respondent) was used. Similarly, for the three subscales of the YEPQ (Yale Eating Pattern Questionnaire), the mean of each respondent's subscale totals (total subscale

scores divided by the number of items answered by the respondent for each subscale) were used. Missing data was only replaced for a scale that was at least 80% complete.

While the study solicited 250 participants, 49 of these participants did not meet the above inclusion criteria due to missing data. This left a maximum study sample size of 201 participants. The total sample size varied slightly (ranging from 195-201) with each analysis depending on which variables were used. More specifically, for all analyses including BMI, N = 198. For all analyses including the BES, N = 195.

Descriptive Statistics and Assessing Normality

Descriptive statistics, central tendency, and internal consistency were examined for each variable in the study. These statistics are presented in Table 1. In addition, the distribution of each measure was checked for skewness and kurtosis. Typically, acceptable scores of skewness and kurtosis fall within the range of -1.0 to 1.0. Scores that fall considerably outside of that range may require some transformation.

Table 1
Descriptive Statistics for Study Variables

Variable	N	Range	Min	Max	Median	Mean	Mode	SD	Skewness	Kurtosis	alpha
Everyday Discrimination	201	37	13	50	28	27.95	26	7.25	-.04	-.11	.91
Racial Socialization	201	16	11	27	22	21.40	23	3.64	-.72	-.01	.78
Perceived Stress	201	43	22	65	39	39.07	38	7.53	.15	.11	.85
Binge Eating Scale	195	46	0	46	6	8.00	3	6.86	1.7	4.7	----
Yale Eating Patterns: Uninhibited	201	27	11	38	24	24.40	25	4.38	.40	.41	.53
Yale Eating Patterns: Oversnacking	201	37	14	51	32	31.79	30	7.16	-.03	-.23	.84
Yale Eating Patterns: Binging	201	36.33	20	56.33	34	34.39	36	6.55	.58	.70	.83
Yale Eating Patterns: Total Scale	201	74	58	132	90	90.58	89	15.45	.38	-.05	.88

Everyday racism. Everyday racism scores as assessed by the Everyday Discrimination Scale (Williams et al., 1997; see Appendix D) ranged from 13 (never experiences discrimination) to 50 (experiences discrimination almost everyday). A median of 28, a mean of 27.95 ($SD = 7.25$), and a mode of 26 indicates that majority of the study sample reported “almost never” or “sometimes” experiencing discrimination. This mean is slightly higher than the mean of Black female urban adolescents ($M = 22.56$, $SD = 9.73$, $N = 55$) and Black urban male adolescents ($M = 25.17$, $SD = 11.19$ for males, $N = 65$) on the same scale (Clark et al., 2004). In addition, consistent with Clark et al.’s findings, the scale item with the highest mean score in the current study was “People act as if they are better than you are,” and the scale item with the lowest mean score was “You are threatened or harassed.” In the current study, the Cronbach’s alpha was .91, which is consistent with reported internal consistencies over .85 (Clark et al., 2005; Krieger et al., 2005; Williams et al., 1997; Seaton et al., 2008) when the scale is used with Black adult and adolescent samples. A skewness statistic of $-.04$, and a kurtosis statistic of $-.11$ were within normal limits.

Racial socialization. Racial socialization scores as assessed by the Teenager Experience of Racial Socialization scale (TERS, Stevenson et al., 2002, see Appendix D) ranged from 11 to 27 with a median of 22, a mean of 21.40 ($SD = 3.64$), and a mode of 23. The current study’s mean is consistent with the mean of 260 inner-city male and female African American adolescents ($M = 21.7$, $SD = 4.5$) on the same scale (Stevenson et al.). Although the current study’s scores spanned almost the entire possible range of 9 (never) to 27 (lots of times), the relatively high mean indicates a high frequency of hearing cultural pride messages from parents while growing up. The message most

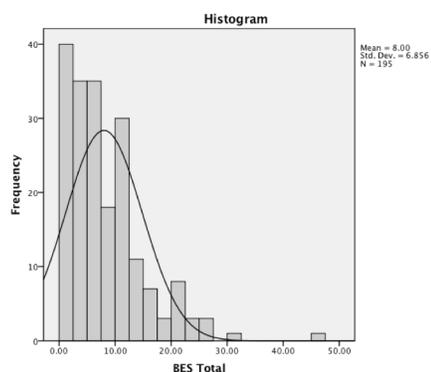
frequently heard by respondents was “Getting a good education is still the best way to get ahead” (90% of respondents have heard this message lots of times); and the message least heard by respondents was “Racism is not as bad as it used to be before the 1960s” (46% of respondents have never heard this message). In the current study, the internal consistency statistic was .78, which is slightly lower than the reported statistic of .83 (Stevenson et al.) when used with African American adolescents. A skewness statistic of -.72, and a kurtosis statistic of -.01 were within normal limits.

Perceived stress. Perceived stress scores as assessed by the Perceived Stress Scale (PSS, Cohen et al., 1983, see Appendix D) ranged from 8 to 51 with a median of 25, a mean of 25.07 ($SD = 7.53$), and a mode of 24. Although the current study’s scores spanned almost the entire possible range of 0 to 56, the moderate mean indicates that most respondents experience stress sometimes. Studies by Cohen et al. report similar means. In a study of 332 students at the university of Oregon, the PSS mean was 23.18 ($SD = 7.31$), in a study of 114 members of intro class to psychology, the PSS mean was 23.67 ($SD = 7.79$), and in a study of 37 females participating in a smoking cessation program run by the university of Oregon smoking control program the PSS mean was 25.0 ($SD = 8$) (Cohen et al.) on the same scale. In the current study, the internal consistency statistic was .85, which is consistent with the reported internal consistencies of .84, .85, and .86 in two samples of college students and in a sample of participants in a community smoking-cessation program (Cohen et al.). Cohen and colleagues suggest that their data are from restricted samples, in that they are younger, more educated, and contain fewer minority members than the general population. In the current study, a skewness statistic of .15, and a kurtosis statistic of .11 were within normal limits.

Overeating. Overeating scores as assessed by the Binge Eating Scale (BES, Gormally et al., 1982, see Appendix D) ranged from 0 to 46 with a median of 6, a mean of 8.00 ($SD = 6.86$), and a mode of 3. This mean is lower than that of a sample of 65 overweight middle class White females ($M = 20.8, SD = 8.4$) and that of 47 overweight middle class White males and females ($M = 21.4, SD = 9.2$) (Gormally et al.). A skewness statistic of 1.70, and a kurtosis statistic of 4.69 fell outside of the acceptable range of +1 or - 1.

Based on the histogram of the data distribution (Graph 1), this variable seems to have a more exaggerated peak of values clustered around the mean and flatter tails, which would be characterized as a leptokurtic distribution due to the excess positive skew. Scores greater than 27 indicate severe binge eating, scores between 17 and 27 indicate a moderate level of binge eating, and scores less than 17 indicate non-binge eaters (Celio et al., 2004). This distribution suggests that most participants tended to display non-binge eating patterns whereas a positive skew seems to be explained by the fact that a few participants displayed binge eating behaviors to an extreme.

Graph 1: *Histogram of BES Scores*

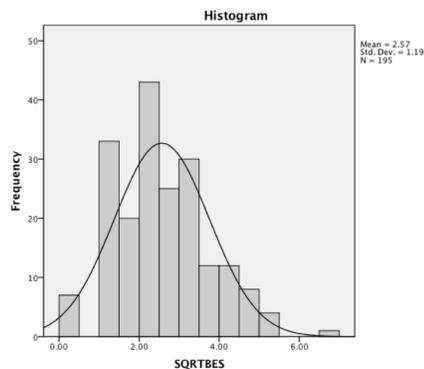


Because of the excessive skewness and kurtosis statistics for the BES scores, the decision was made to examine this variable without Case 20, which was identified as a

univariate outlier due to an unusually high standardized BES scale score of 5.38. Without Case 20, the skewness and kurtosis for the BES variable was 1.23 and 1.39 respectively, but still exceeded the acceptable range of +1 or – 1. Tabachnik and Fidell (1989) suggest that transformations may improve analysis and may reduce the impact of outliers. For this reason, the decision was made to re-include Case 20 and transform the variable BES.

Tabachnik and Fidel suggest using the transformation that produces the skewness and kurtosis values nearest to zero, and that produces the most normally distributed data. In this case, the square root transformation procedure was most effective in transforming the BES scores (see Graph 2). The skewness and kurtosis statistics for the transformed BES variable were -.27 and .23 respectively, which are within normal range. The transformed BES variable was used for the rest of the analyses.

Graph 2: *Histogram of Transformed BES Scores*



Overeating. Three subscales of the Yale Eating Pattern questionnaire (YEPQ, Kristeller & Rodin, 1989, see Appendix D) were used to measure overeating patterns in this study: the Uninhibited subscale (9 items), the Oversnacking subscale (12 items), and the Binging subscale (13 items). In this sample, YEPQ Uninhibited scale scores ranged from 11 to 38 with a median of 24, a mean of 24.40 ($SD = 4.38$), and a mode of 25 indicating that most respondents reported moderate levels of inhibition regarding food.

The current study's mean is in line with the mean score of 116 mainly White male and female undergraduates in an introductory psychology course ($M = 25.16$, $SD = 4.89$) (Kristeller & Rodin). In the current study, the Cronbach's alpha was .53, which is lower than the reported Cronbach's alpha (.69) among a sample of mainly White male and female undergraduates (Kristeller & Rodin). A skewness statistic of .40, and a kurtosis statistic of .41 were within normal limits. Because of the low internal consistency of this scale, the results of analyses using this scale should be interpreted with caution.

In this sample, YEPQ Oversnacking scale scores ranged from 14 to 51 with a median of 32, a mean of 31.79 ($SD = 7.16$), and a mode of 30 indicating that most respondents in the current study reported moderate levels of overeating. The current study's mean was slightly lower than the mean score of 116 obtained from mainly White male and female undergraduates in an introductory psychology course ($M = 34.16$, $SD = 6.33$) (Kristeller & Rodin, 1989). The Cronbach's alpha was .84, which was higher than the reported Cronbach's alpha of .78 among a sample of mainly White male and female undergraduates (Kristeller & Rodin) and .88 among Australian first year psychology students (Cleary & Crafti, 2007). A skewness statistic of -.03, and a kurtosis statistic of -.23 were within normal limits.

In this sample, YEPQ Binging scale scores ranged from 20 to 56.33 with a median of 34, a mean of 34.39 ($SD = 6.55$), and a mode of 36 indicating that most respondents in the current study reported moderate levels of overeating. The current study's mean is slightly lower than the mean score of 116 mainly White male and female undergraduates in an introductory psychology course ($M = 39.95$, $SD = 7.28$) (Kristeller & Rodin, 1989). The Cronbach's alpha was .83, which was consistent with the reported

internal consistencies of .83 among a sample of mostly White male and female college students (Kristeller & Rodin) and .88 among Australian first year psychology students (Cleary & Crafti, 2007). A skewness statistic of .58, and a kurtosis statistic of .70 were within normal limits.

In this sample, YEPQ Total scale scores ranged from 58 to 132 with a median of 90, a mean of 90.58 ($SD = 15.45$), and a mode of 89 indicating moderate levels of overeating. The Cronbach's alpha was .88. No prior literature has provided descriptive statistics or internal consistency statistics for the YEPQ Total scale. A skewness statistic of .38, and a kurtosis statistic of -.054 were within normal limits.

Relationships Between Demographic and Study Variables

Correlations, independent t-tests, analyses of variance (ANOVA), and multivariate analyses of variance (MANOVA) assessed group differences on study variables (Everyday Discrimination, Racial Socialization, Perceived Stress, Binge Eating Scale, YEPQ Uninhibited, YEPQ Oversnacking, YEPQ Binging, and YEPQ Total) by demographic variables (Age, BMI, Socioeconomic Status, Birthplace, Ethnicity and Race).

Table 2

Pearson Correlations between Age, BMI, and SES and Study Variables

Variable	Everyday Discrimination	Racial Socialization	Perceived Stress	Binge Eating Scale	Yale Eating Patterns: Uninhibited	Yale Eating Patterns: Oversnacking	Yale Eating Patterns: Binging	Yale Eating Patterns: Total
SES	.26**	-.06	.11	.00	.11	.04	.03	.06
BMI	.15*	-.06	-.05	.26**	-.02	.19**	.16*	.15*
Age	.13	-.08	-.09	-.08	-.20**	-.06	-.08	-.12

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Correlational analyses (see Table 2) revealed that SES was significantly and positively correlated with Everyday Discrimination ($r = .26, p < .01$). In other words,

respondents who considered themselves upper class reported the fewest experiences of discrimination while participants who considered themselves in the lower middle class and lower class reported the most experiences of discrimination. This relationship will be considered in the primary analyses and discussed further in Chapter V.

Correlational analyses also revealed that BMI was significantly and positively related to Everyday Discrimination ($r = .15, p < .05$). In other words, respondents who reported more experiences of discrimination tended to have higher BMIs. This relationship will be considered in the primary analyses and discussed further in Chapter V. Lastly, correlational analyses revealed that BMI was significantly and positively related to all overeating scales (BES: $r = .26, p < .01$; YEPQ Oversnacking subscale: $r = .19, p < .01$; YEPQ Binging subscale: $r = .16, p < .05$; and YEPQ Total scale: $r = .15, p < .05$) except for the YEPQ Uninhibited scale ($r = -.02, p > .05$). In other words, respondents who had more patterns of overeating as measured by the YEPQ Oversnacking scale, the YEPQ Binging scale, the YEPQ Total scale, and the BES tended to have higher BMIs. These relationships are expected given the established relationship between overeating and BMI. These relationships will be considered in the primary analysis and will be discussed further in Chapter V.

Finally, correlational analyses revealed that Age was significantly and negatively correlated with YEPQ Uninhibited ($r = -.20, p < .01$). In other words, older respondents reported more inhibited eating patterns than younger respondents. Because of the low reliability of the YEPQ Uninhibited scale, this result must be interpreted with caution and will be discussed further in Chapter V.

Six t-tests and three ANOVAs were completed to assess whether Black American women's reported experiences of Everyday Discrimination, Racial Socialization, and Perceived Stress differed significantly based upon their birthplace (United States, Other), race (Black, Bi- and Multi-racial, Other), or ethnicity (Afro-American, Afro-Caribbean/Central American, Mixed, Other). T-tests revealed no significant differences by birthplace on Everyday Discrimination, $t(199) = -.41, p > .05$; Racial Socialization, $t(199) = .52, p > .05$; or Perceived Stress, $t(199) = .33, p > .05$. T-tests revealed no significant differences by race on Everyday Discrimination, $t(198) = 1.31, p > .05$; Racial Socialization, $t(198) = 1.24, p > .05$; or Perceived Stress, $t(198) = -1.94, p > .05$. ANOVAs revealed no significant differences by ethnicity on Everyday Discrimination, $F(3-179) = .16, p > .05$; Racial Socialization, $F(3-179) = .08, p > .05$; or Perceived Stress, $F(3-179) = .72, p > .05$.

Three MANOVAs were completed to assess whether Black American women's reported eating patterns differed based upon their birthplace (United States, Other), race (Black, Bi- and Multi-racial), or ethnicity (Afro-American, Afro-Caribbean/Central American, Mixed, Other). The five eating pattern measures, YEPQ Uninhibited, YEPQ Oversnacking, YEPQ Binging, YEPQ Total, and BES, were the dependent variables for all three analyses. The main effect for birthplace was significant, Hotelling's $T = .06, F(4, 190) = 2.85, p < .05$, however none of the Univariate F 's were significant for any of the eating pattern variables: YEQP Uninhibited, $F(1, 193) = .05, p > .05$; YEQP Oversnacking, $F(1, 193) = .07, p > .05$; YEQP Binging, $F(1, 193) = 3.70, p > .05$; YEQP Total, $F(1, 193) = .76, p > .05$; BES, $F(1, 193) = .77, p > .05$. Thus, we can conclude that

although the five eating pattern variables do differ significantly by birthplace together, the individual dimensions of eating that are of interest to this study do not differ significantly by birthplace.

The main effect for racial classification was not significant, Hotelling's $T = .02$, $F(4, 190) = .70$, $p > .05$. Univariate F 's did not indicate that race differences were significant for any of the eating pattern variables: YEQP Uninhibited, $F(1, 193) = .81$, $p > .05$; YEQP Oversnacking, $F(1, 193) = .90$, $p > .05$; YEQP Binging, $F(1, 193) = 1.88$, $p > .05$; YEQP Total, $F(1, 193) = 1.63$, $p > .05$; and BES, $F(1, 193) = 2.20$, $p > .05$.

The main effect for ethnicity was not significant, Wilks' Lambda = .93, $F(12, 450) = 1.11$, $p > .05$. Univariate F 's did not indicate that race differences were significant for any of the eating pattern variables: YEQP Uninhibited, $F(3, 173) = .42$, $p > .05$; YEQP Oversnacking, $F(3, 173) = .75$, $p > .05$; YEQP Binging, $F(3, 173) = .61$, $p > .05$; YEQP Total, $F(3, 173) = .14$, $p > .05$; and BES, $F(3, 173) = .40$, $p > .05$.

In sum, Socioeconomic Status (SES) was found to be significantly correlated with Everyday Discrimination. BMI was found to be significantly correlated with Everyday Discrimination, BES, YEPQ Oversnacking, YEPQ Binging and YEPQ Total. Age was found to be significantly correlated with YEPQ Uninhibited. T-tests and ANOVAs revealed no significant differences by birthplace, race or ethnicity on Everyday Discrimination, Racial Socialization, or Perceived Stress. MANOVAs did not reveal significant differences by race or ethnicity on eating patterns. MANOVAs did reveal that the five eating pattern variables differed significantly by birthplace together, but that the individual dimensions of eating did not differ significantly by birthplace.

Primary Analyses

The following section summarizes the analyses conducted to test the four main hypotheses of this study. Table 3 presents a Pearson correlation matrix of the linear relationships of the study variables, which are central to the analysis of each hypothesis.

Table 3
Pearson Correlations Among Study Variables

Variable	Everyday Discrimination	Racial Socialization	Perceived Stress	Binge Eating Scale	Yale Eating Patterns: Uninhibited	Yale Eating Patterns: Oversnacking	Yale Eating Patterns: Binging	Yale Eating Patterns: Total
Everyday Discrimination	----							
Racial Socialization	.079	----						
Perceived Stress	.28**	-.12	----					
Binge Eating Scale	.07	-.05	.28**	----				
Yale Eating Patterns: Uninhibited	.14	.14*	.23**	.27**	----			
Yale Eating Patterns: Oversnacking	.24**	.03	.26**	.58**	.57**	----		
Yale Eating Patterns: Binging	.18*	.06	.18*	.56**	.49**	.66**	----	
Yale Eating Patterns: Total	.23**	.08	.26**	.58**	.76**	.90**	.87**	----

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Hypothesis 1: Experiences of Everyday Discrimination are significantly and positively related to overeating. Pearson product-moment correlation analyses were used to test the first hypotheses– that Everyday Discrimination would be significantly and positively related to overeating (see Table 3).

Everyday Discrimination was found to be significantly and positively related three out of five measures of overeating. Everyday Discrimination was found to be significantly and positively related to YEPQ Oversnacking ($r = .24, p < .01$), YEPQ Binging ($r = .18, p < .05$), and YEPQ Total ($r = .23, p < .01$). In other words, 5.7% of the

variance in YEPQ Oversnacking ($R^2 = .06, p < .001$), 3.2% of the variance in YEPQ Binging ($R^2 = .03, p < .01$), and 5.1% of the variance in YEPQ Total ($R^2 = .05, p < .001$) could be attributed to Experiences of Everyday Discrimination. Everyday Discrimination was not found to be significantly correlated with the YEPQ Uninhibited scale or the BES.

It is interesting to note that although the YEPQ Uninhibited scale and the BES were significantly and positively correlated with the YEPQ Oversnacking, YEPQ Binging, and YEPQ Total scales, they were not significantly correlated with Everyday Discrimination, which the YEPQ Oversnacking, YEPQ Binging, and YEPQ Total scales were. This may suggest that there are differences between the eating scales, which were related to women's experiences of discrimination. These potential differences will be discussed further in Chapter V.

In sum, Hypothesis I was supported by the finding that Everyday Discrimination was significantly and positively correlated with overeating as measured by the YEPQ Oversnacking, YEPQ Binging, and YEPQ Total scales. On the other hand, Hypothesis I was not supported by the findings that Everyday Discrimination was not significantly correlated with overeating as measured by the YEPQ Uninhibited scale or the BES. Again, it is important to note that the internal consistency of the YEPQ Uninhibited scale was relatively low (.53), so findings including this measure should be interpreted with caution.

Hypothesis II: Racial Socialization will have a significant moderating effect in the relationship between Everyday Discrimination and overeating. Hypothesis II proposes that Racial Socialization will have a significant moderating effect in the relationship between Everyday Discrimination and overeating. Relationships between

Everyday Discrimination and overeating were found for YEPQ Oversnacking, YEPQ Binging, and YEPQ Total in Hypothesis I. To test hypothesis II, hierarchical regression analysis as suggested by Baron and Kenny (1986) was used and separate analyses were run for each outcome variable. Given the significant relationships found in the preliminary analyses between SES and Everyday Discrimination, BMI and Everyday Discrimination, and BMI and all of the eating pattern variables except for YEPQ Uninhibited, SES and BMI were entered into each model first in order to partial out the variance attributable to these variables. The predictor variable, Everyday Discrimination, was entered into the model second. Third, the predictor variable, Racial Socialization, was entered into the model. And fourth, the interaction of Everyday Discrimination and Racial Socialization was entered into the model.

Table 4
Hierarchical Regression Analysis for Variables Predicting YEPQ Oversnacking

Model	Unstandardized		Standardized	R^2	ΔR^2
	Coefficients		Coefficients		
	<i>B</i>	<i>SE</i>	β		
Step 1				.04	.04*
BMI	.21	.08	.19**		
SES	.16	.52	.02		
Step 2				.09	.05**
BMI	.18	.08	.16*		
SES	-.25	.52	-.03		
Everyday Discrimination	.23	.07	.23**		
Step 3				.09	.00
BMI	.18	.08	.16*		
SES	-.23	.52	-.03		
Everyday Discrimination	.23	.07	.23**		
Racial Socialization	.05	.14	.03		
Step 4				.09	.00
BMI	.18	.08	.16*		
SES	-.23	.53	-.03		
Everyday Discrimination	.24	.45	.24		
Racial Socialization	.07	.58	.04		
Everyday Discrimination X Racial Socialization	-.00	.02	-.02		

Dependent Variable: YEPQ Oversnacking

** $p < .01$, * $p < .05$

Table 4 shows that the model as a whole predicts 8.7% of the variance of YEPQ Oversnacking scores ($R^2 = .09$). SES did not predict YEPQ Oversnacking in any step of the model. BMI significantly predicted YEPQ Oversnacking scores in every step of the model. In addition, consistent with findings in Hypothesis I, Everyday Discrimination significantly added to the predictive value of the model ($\Delta R^2 = .05$, $p < .01$) in Step 2, but did not remain a significant predictor of YEPQ Oversnacking beyond Step 3. Racial

Socialization did not significantly predict YEPQ Oversnacking in any step of the model. The interaction term (Everyday Discrimination X Racial Socialization) was not found to be a significant predictor of YEPQ Oversnacking above and beyond that of Everyday Discrimination and Racial Socialization, so a moderation effect was not indicated.

Table 5
Hierarchical Regression Analysis for Variables Predicting YEPQ Binging

Model	Unstandardized Coefficients		Standardized Coefficients	R^2	ΔR^2
	B	SE	β		
Step 1				.02	.02
BMI	.15	.07	.15*		
SES	.09	.04	.01		
Step 2				.05	.03*
BMI	.13	.07	.13		
SES	-.19	.48	-.03		
Everyday Discrimination	.16	.07	.18*		
Step 3				.06	.00
BMI	.14	.07	.14		
SES	-.16	.48	-.02		
Everyday Discrimination	.15	.07	.17*		
Racial Socialization	.11	.13	.06		
Step 4				.061	.004
BMI	.14	.07	.14		
SES	-.20	.48	-.03		
Everyday Discrimination	-.24	.42	-.26		
Racial Socialization	-.39	.54	-.22		
Everyday Discrimination X Racial Socialization	.02	.02	.54		

Dependent Variable: YEPQ Binging

** $p < .01$, * $p < .05$

Table 5 shows that the model as a whole predicts 6.1% of the variance of YEPQ Binging scores ($R^2 = .06$). SES did not predict YEPQ Binging in any step of the model.

BMI significantly predicted YEPQ Binging scores in the first step of the model only. Again, consistent with findings in Hypothesis I 1, Everyday Discrimination significantly added to the predictive value of the model ($\Delta R^2 = .03, p < .05$) in Step 2, but did not remain a significant predictor of YEPQ Binging beyond Step 3. Racial Socialization did not significantly predict YEPQ Binging in any step of the model. The interaction term (Everyday Discrimination X Racial Socialization) was not found to be a significant predictor of YEPQ Binging above and beyond that of Everyday Discrimination and Racial Socialization, so a moderation effect was not indicated for this model.

Table 6
Hierarchical Regression Analysis for Variables Predicting YEPQ Total

Model	Unstandardized		Standardized	R^2	ΔR^2
	Coefficients		Coefficients		
	<i>B</i>	<i>SE</i>	β		
Step 1				.03	.03
BMI	.34	.17	.15*		
SES	.76	1.12	.05		
Step 2				.07	.04**
BMI	.28	.17	.12		
SES	-.07	1.13	-.00		
Everyday Discrimination	.46	.15	.22**		
Step 3				.07	.01
BMI	.29	.17	.12		
SES	.03	1.13	.00		
Everyday Discrimination	.45	.16	.21**		
Racial Socialization	.33	.30	.08		
Step 4				.08	.00
BMI	.29	.17	.12		
SES	-.02	1.14	-.00		
Everyday Discrimination	-.02	.97	-.01		
Racial Socialization	-.27	1.26	-.06		
Everyday Discrimination					
X	.02	.04	.27		
Racial Socialization					

Dependent Variable: YEPQ Total

** $p < .01$, * $p < .05$

Table 6 shows that the model as a whole predicts 7.6% of the variance of YEPQ Total scores ($R^2 = .08$). SES did not predict YEPQ Total in any step of the model. BMI significantly predicted YEPQ Total scores in the first step of the model only. Again, consistent with findings in Hypothesis I 1, Everyday Discrimination significantly added to the predictive value of the model ($\Delta R^2 = .04$, $p < .01$) in Step 2, but did not remain a

significant predictor of YEPQ Total beyond Step 3. Racial Socialization did not significantly predict YEPQ Total in any step of the model. The interaction term (Everyday Discrimination X Racial Socialization) was not found to be a significant predictor of YEPQ Total above and beyond that of Everyday Discrimination and Racial Socialization, so a moderation effect was not indicated for this model.

In sum, these findings did not support Hypothesis II 2; Racial Socialization did not have a moderating effect in the relationship between Everyday Discrimination and overeating as measured by the YEPQ Oversnacking scale, the YEPQ Binging scale, or the YEPQ Total scale.

Hypothesis III: Perceived Stress will mediate the relationship between Everyday Discrimination and overeating. Hypothesis III proposes that Perceived Stress would mediate the relationship between Everyday Discrimination and overeating. To test this hypothesis, hierarchical regression analysis as suggested by Baron and Kenny (1986) was used and separate analyses were run for each outcome variable.

According to Baron and Kenny (1986), four conditions must be met for a variable to be considered a mediator. First, the predictor, Everyday Discrimination, must be significantly associated with the hypothesized mediator, Perceived Stress. As is evident in Table 3, Everyday Discrimination was found to be significantly and positively related to PSS ($r = .28, p < .01$).

Second, the predictor, Everyday Discrimination, must be significantly associated with the dependent measure, overeating. As is evident in Table 3, Everyday Discrimination was found to be significantly and positively related to overeating as measured by the YEPQ Oversnacking scale ($r = .24, p < .01$), the YEPQ Binging scale (r

= .18, $p < .05$), and the YEPQ Total scale ($r = .23, p < .01$). Everyday Discrimination was not found to be significantly and positively related to overeating as measured by the YEPQ Uninhibited scale, or the BES. According to Kenny (2008), most analysts suggest that Step 2 and 3 are essential to establishing mediation. For this reason, no further analysis was conducted using the YEPQ Uninhibited scale or the BES as outcome measures.

Third, the hypothesized mediator, Perceived Stress, must be significantly associated with the dependent variable, overeating. As is evident in Table 1, Perceived Stress was found to be significantly and positively related to overeating as measured by the YEPQ Oversnacking scale ($r = .26, p < .01$), the YEPQ Binging scale ($r = .18, p < .01$), and the YEPQ Total scale ($r = .26, p < .01$).

Fourth, the impact of the predictor, Everyday Discrimination, on the dependent measure, overeating, must be less after controlling for the hypothesized mediator, Perceived Stress. More specifically, mediation is said to occur if the independent variable is either no longer significant (full mediation) or is reduced in comparison with the first equation (partial mediation) when the proposed mediator is entered into the equation. For the fourth step, regression analyses for each outcome variable will be presented.

Table 7
Hierarchical Regression Analysis for Variables Predicting YEPQ Oversnacking

Model	Unstandardized Coefficients		Standardized Coefficients	R^2	ΔR^2
	B	SE	β		
Step 1				.04	.04*
BMI	.21	.08	.19**		
SES	.16	.52	.02		
Step 2				.09	.05**
BMI	.18	.08	.16*		
SES	-.25	.52	-.03		
Everyday Discrimination	.23	.07	.23**		
Step 3				.13	.04**
BMI	.20	.08	.18**		
SES	-.32	.51	-.04		
Everyday Discrimination	.16	.07	.17*		
Perceived Stress	.21	.07	.22**		

Dependent Variable: YEPQ Oversnacking

** $p < .01$, * $p < .05$

Outcome: YEPQ Oversnacking. With YEPQ Oversnacking as the outcome variable, SES and BMI were entered simultaneously into Step 1 in order to partial out the variance attributable to these variables. Next, Everyday Discrimination and Perceived Stress were simultaneously entered as Step 2. In this analysis, the contribution of Everyday Discrimination to YEPQ Oversnacking was reduced from a significant beta of .23, $p < .01$ to a less significant beta of .17, $p < .05$. The significance of the reduction in beta was examined further using Sobel's test (Baron & Kenny, 1986; Sobel, 1982). The decrease in beta was significant, $z = 2.4$, $p = .015$, indicating partial mediation. In other words, Perceived Stress explains part of the relationship between Everyday Discrimination and YEPQ Oversnacking.

Table 8
Hierarchical Regression Analysis for Variables Predicting YEPQ Binging

Model	Unstandardized Coefficients		Standardized Coefficients	R^2	ΔR^2
	B	SE	β		
Step 1				.02	.02
BMI	.15	.07	.15*		
SES	.09	.47	.01		
Step 2				.05	.03*
BMI	.13	.07	.13		
SES	-.19	.48	-.03		
Everyday Discrimination	.16	.07	.18*		
Step 3				.07	.02*
BMI	.15	.07	.15*		
SES	-.23	.48	-.04		
Everyday Discrimination	.12	.07	.13		
Perceived Stress	.13	.06	.15*		

Dependent Variable: YEPQ Binging

** $p < .01$, * $p < .05$

Outcome: YEPQ Binging. With YEPQ Binging as the outcome variable, SES and BMI were entered again simultaneously into Step 1 in order to partial out the variance attributable to these variables. Next, Everyday Discrimination and Perceived Stress were simultaneously entered as Step 2. In this analysis, the contribution of Everyday Discrimination to YEPQ Binging was reduced from a significant beta of .18, $p < .05$ to a non-significant beta of .13, $p > .05$. The initial predictive strength of Everyday Discrimination weakened with the addition of Perceived Stress such that Everyday Discrimination was no longer predictive of YEPQ Binging, indicating a full mediating effect by Perceived Stress.

Table 9
Hierarchical Regression Analysis for Variables Predicting YEPQ Total

Model	Unstandardized Coefficients		Standardized Coefficients	R^2	ΔR^2
	B	SE	β		
Step 1				.03	.03
BMI	.34	.17	.15*		
SES	.76	1.12	.048		
Step 2				.07	.04**
BMI	.28	.17	.12		
SES	-.07	1.13	-.00		
Everyday Discrimination	.46	.15	.22**		
Step 3				.11	.04**
BMI	.33	.16	.14*		
SES	-.22	1.12	-.01		
Everyday Discrimination	.33	.16	.15*		
Perceived Stress	.45	.15	.22**		

Dependent Variable: YEPQ Total

** $p < .01$, * $p < .05$

Outcome: YEPQ Total. With YEPQ Total as the outcome variable, SES and BMI were entered again simultaneously into Step 1 in order to partial out the variance attributable to these variables. Next, Everyday Discrimination and Perceived Stress were simultaneously entered as Step 2. In this analysis, the contribution of Everyday Discrimination to YEPQ Total was reduced from a significant beta of .22, $p < .01$ to a less significant beta of .15, $p < .05$. The significance of the reduction in beta was examined further using Sobel's test (Baron & Kenny, 1986; Sobel, 1982). The decrease in beta was significant, $z = 2.42$, $p < .05$, indicating partial mediation. In other words, Perceived Stress explains part of the relationship between Everyday Discrimination and YEPQ Total.

In sum, these findings supported Hypothesis III with YEPQ Binging as an

outcome variable. Perceived Stress had a full mediating effect in the relationship between Everyday Discrimination and overeating as measured by the YEPQ Binging scale. These findings partially supported Hypothesis III with YEPQ Oversnacking and YEPQ Total as outcome variables. Perceived Stress had a partial mediating effect in the relationship between Everyday Discrimination and the YEPQ Oversnacking scale and the YEPQ Total scale.

Hypothesis IV: Racial Socialization will be significantly and negatively related to overeating. Pearson product-moment correlation analyses tested the fourth hypothesis that Racial Socialization would be significantly and negatively related to overeating (see Table 3).

Racial Socialization was not found to be significantly and negatively related to any measures of overeating, but was found to be significantly and positively related to YEPQ Uninhibited (YEPQ Uninhibited: $r = .14, p < .05$; YEPQ Oversnacking: $r = .03, p > .05$; YEPQ Binging: $r = .06, p > .05$; YEPQ Total: $r = .08, p > .05$; BES: $r = -.05, p > .01$). In other words, 2.1% of the variance in YEPQ Uninhibited ($R^2 = .02, p < .05$) could be attributed to Racial Socialization.

In sum, Hypothesis IV was not supported in that Racial Socialization is not significantly and negatively correlated with any measures of overeating. Racial Socialization was found to be significantly and positively correlated with overeating as measured by the YEPQ Uninhibited scale. Again, it is important to note that the internal consistency of the YEPQ Uninhibited scale is relatively low (.53), so findings including this measure should be interpreted with caution.

Hypothesis V: Perceived Stress will mediate the relationship between Racial Socialization and overeating. Hypothesis V proposed that Perceived Stress would mediate the hypothesized relationship between Racial Socialization and overeating. Because results for Hypothesis IV revealed that the expected relationship between Racial Socialization and overeating did not exist, no further analyses were conducted.

Summary of Findings

Experiences of Everyday Discrimination were found to be significantly and positively correlated to overeating as measured by the YEPQ Oversnacking, YEPQ Binging, and YEPQ Total scales, but not as measured by the YEPQ Uninhibited scale or the BES. Racial Socialization did not moderate the relationships between Experiences of Everyday Discrimination and the YEPQ Oversnacking scale, the YEPQ Binging scale, or the YEPQ Total scale. Perceived Stress had a full mediating effect in the relationship between Everyday Discrimination and the YEPQ Binging scale. Perceived Stress had a partial mediating effect in the relationship between Everyday Discrimination and YEPQ Oversnacking, and in the relationship between Everyday Discrimination and YEPQ Total.

Racial Socialization was not found to be significantly and negatively correlated to any measures of overeating. Racial Socialization was found to be significantly and positively correlated with a disinhibition regarding food as measured by the YEPQ Uninhibited scale. Again, it is important to note that the internal consistency of the YEPQ Uninhibited scale is relatively low (.53), so findings including this measure should be interpreted with caution. Because the expected relationship between Racial Socialization and overeating did not exist, no further analysis was conducted.

CHAPTER V

Eating disorders develop within a culture of oppression. They begin as ways women cope with various traumas including racism. Women may use eating to numb pain and cope (Thompson, 1996).

The field of psychology has long been interested in the predictors of positive and negative mental and physical health outcomes. Recently, overeating has generated a significant amount of attention as rates of obesity and related illnesses have sky-rocketed in the United States – particularly among Black American women (Davis et al., 1999; Foreyt & Poston, 1999; Hedley et al., 2004; Leigh, 1995; Smolak & Striegel-Moore, 2001). According to the 2003-2006 NHANES, the prevalence of obesity in the United States has steadily increased among all genders, ages, racial and ethnic groups, and all educational levels. From 1960-2 to 2005-6, the prevalence of obesity increased from 13.4 to 35.1 percent in U.S. adults age 20 to 74 (U.S. Department of Health and Human Services, 2008). With the growing need for intervention and prevention measures across racial groups, it has become increasingly apparent that much of the literature concerning eating behaviors is focused on White middle class populations and that there is little research to inform our understanding of other populations with eating concerns. Given that the Center for Disease Control estimates Black American have the highest rates of obesity (49.6 percent) as compared to all other racial groups of men and women (U.S. Department of Health and Human Services), the current study aimed to develop an understanding of disordered eating that effectively accounts for race and culture in an effort to inform clinical interventions with Black American women who overeat, and to inform public policy aimed at reducing rates of obesity and related illnesses.

Perceived racism, a main predictor in this study, has been identified as detrimental to the overall physical and emotional health of Black Americans (Mays et al., 2007; Clark et al., 1999), and has been linked with eating disorders in qualitative (Thompson, 1994, 1996) and quantitative (Harrington et al., 2006; Talleyrand, 2002, 2006) studies. It has been proposed that perceived racism leads to negative health behaviors such as overeating by way of stress (Clark et al.; Talleyrand et al., 2002). The current study is the first to test this theory and explore perceived stress as a mediator of the relationship between perceived racism and overeating among Black American women.

Racial socialization, another main predictor in this study, has been shown to support the healthy development of Black Americans (Arroyo & Zigler, 1995; Bowman & Howard, 1985; Boykin & Toms, 1985; Caldwell et al., 2004; Cross et al., 1999; Hughes, 2003; Nicolas et al., 2008; Phinney & Chavira, 1995; Rowley et al., 2006; Sellers & Shelton, 2003; Stevenson, 1994; Stevenson et al., 2002; Wong et al., 2003) and has been linked with a number of positive psychosocial outcomes such as greater self esteem, effective anger management, and reduced stress among Black adolescents and young adults (e.g., Constantine & Blackmon, 2002; Fischer & Shaw, 1999; Neblett et al., 2008; Sanders, 1997; Stevenson). Neblett and colleagues have also provided evidence that some forms of racial socialization buffer race-related stress. In addition, using qualitative research, Ward (2007) examined the experience of racial socialization among Black American female adolescents specifically. Although Ward suggests that racial socialization may protect Black girls from overeating, to date, racial socialization has not been empirically examined in relation to eating disorders. The current study is the first to

examine the relationship between racial socialization and overeating, and to explore racial socialization as a buffer between perceived racism and overeating.

This chapter provides an analysis of the findings of the present study. Prior research and theoretical considerations will be used to explore the meaning of these findings and implications for practice and policy will be considered. It is important to note that because the sample in this study is ethnically and culturally diverse, it is difficult to assess how much previous research is relevant to the study's sample because prior research does not often specify the cultural or ethnic diversity of their samples. But, given that the racial identity of the samples being compared are the same (i.e., Black American), it is hoped that meaning can be made of the current study's findings through prior research. The chapter will conclude with a review of the limitations of this study as well as directions for future research.

Main Findings

Hypothesis I: Experiences of Everyday Discrimination are significantly and positively related to overeating. Experiences of Everyday Discrimination were found to be significantly and positively related to overeating as measured by three of the five overeating scales. Experiences of Everyday Discrimination were found to be significantly and positively related to overeating as measured by the YEPQ Oversnacking scale, the YEPQ Binging scale, and the YEPQ Total scale. In other words, Black American women who reported experiencing more perceived racism also reported more overeating patterns as defined by the YEPQ Oversnacking, Binging, and Total scales. This finding supports theories that race-related factors underlie the development of eating disorder symptoms among Black women (e.g., Harris & Kuba, 1997), and suggests that perceived racism is a

significant etiological factor in the development of eating disturbances among Black women (Mastria, 2002; Root, 1990; Smolak & Striegel-Moore, 2001; Thompson, 1994, 1996; Talleyrand, 2006). This finding also adds to the larger body of literature, which links perceived racism to a range of negative psychological, behavioral, and physical outcomes such as low self-esteem (Fisher et al., 2000; Wong et al., 2003), increased depressive symptomology (e.g., Simons et al., 2002; Wong et al.), feelings of hopelessness (e.g., Nyborg & Curry, 2003), anxiety (e.g., Gibbons, Gerrard, Cleveland, Wills, & Brody, 2004), elevated blood pressure and heart rate, smoking and drinking (Mays et al., 2007).

In 2002, Talleyrand was the first to show a significant relationship between perceived racism and self-reported overeating among Black American women using the Schedule of Racist Events to measure perceived racism, and the Compulsive Eating Questionnaire and Emotional Eating Scale to measure overeating (Talleyrand, 2002). The current study supports that finding using different measures. Two theoretical models may account for overeating in response to perceived racism - the Affect Regulation Model and the Stress-Diathesis Model. As discussed in Chapter II, the Affect Regulation Model suggests that some individuals overeat in an effort to provide comfort and distraction from adverse emotions such as anxiety, depression, and anger. Because adverse emotions have been shown to result from experiencing a racist event (e.g., Fisher et al.; Gibbons et al., 2004; Nyborg & Curry, 2003; Simons et al., 2002; Wong et al., 2003) and to precede bingeing episodes (Abraham & Beumont, 1982; Lingswiler et al., 1989; Loro & Orleans, 1981; Powell & Thelen, 1996; Root & Fallon, 1989), adverse emotions may explain the

relationship between perceived racism and overeating. Future research should explore these relationships.

Similarly, the stress-diathesis model suggests that some people overeat in response to general stress (Cartwright et al., 2003; Crowther et al., 2001; Conner et al., 1999; O'Connor & O'Connor, 2004; Freeman & Gil, 2004; Pike et al., 2006; Wardle et al., 2000; Wolff et al., 2000). Research suggests that the stress-overeating pathway is likely unique to each individual's personal characteristics, vulnerabilities and exposure to risk factors (Striegel-Moore et al., 2007). For example, exposure to racism may induce stress, which may lead to overeating for some Black American women. The relationship between stress, perceived racism and overeating will be discussed under Hypothesis III.

While Experiences of Discrimination were significantly and positively related to the YEPQ Oversnacking scale, the YEPQ Binging scale, and the YEPQ Total scale, Experiences of Everyday Discrimination were not significantly related to overeating as measured by the BES or by the YEPQ Uninhibited scale. In other words, Black American women who experienced more perceived racism did not report more overeating as defined by the BES and the YEPQ Uninhibited scale. This finding suggests that there are important distinctions between the outcome measures in this study. Although the five measures of overeating (BES, and the YEPQ Uninhibited, Oversnacking, Binging and Total scales) were found to be highly correlated with each other, they did not all act similarly in relation to perceived racism – i.e., the BES and the YEPQ Uninhibited scale were not significantly related to perceived racism as the other eating scales were. This may suggest that the BES scale and the Uninhibited scale are measuring something slightly different than the other eating scales.

As described in Chapter III, the BES was originally designed to assess the experience of binge eating in obese individuals and was normed on White obese men and women. For these reasons, the BES may not be appropriate to use with a Black American population of various weights. In addition, the BES was derived from the *DSM-IV* criteria for BED. The BES measures the *DSM-IV* diagnostic criteria for BED, which reads, “The essential features [of binge eating disorder] are recurrent episodes of binge eating associated with subjective and behavioral indicators of impaired control over, and significant distress about, the binge eating... Indicators of impaired control include eating very rapidly, eating until feeling uncomfortably full, eating large amounts of food when not hungry, eating alone because of embarrassment over how much one is eating, and feeling disgust, guilt or depression after overeating” (APA, p. 785). For example, the BES focuses largely on measuring feelings of discomfort after eating (e.g., “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”) and one’s ability to “control” the amount of food they eat (e.g., “Because I feel so helpless about controlling my eating I have become very desperate about trying to get in control”). As noted in Chapter II, the *DSM* does not take into account the effects of various etiologic and contextual factors such as racism (Taylor et al., 2007), and the current models of psychopathology “do not consider the possibility that ‘psychopathology’ in some instances may reflect the attempts of the organism to adapt to the broader environmental context” (Jensen, Hoagwood, & Zitner, 2006, p. 26). As a result, the BES taps into pathological eating patterns as defined within White American culture, ignoring other contexts and cultures and possibly missing eating disturbances among Black American women in the current study.

In addition, as described in Chapter IV, the distribution of the BES in the current study suggested that most participants displayed non-binge eating behavior as defined by the BES, while only a few participants displayed binge-eating behaviors to an extreme. As a result, this measure was transformed for the main analyses, but still may not reflect a measurable range of behavior to produce useful results.

Unlike the BES, the YEPQ is designed to measure the broad spectrum of eating patterns within a non-clinical population and aims to measure abnormalities of food intake regulation, as is seen among individuals who may be vulnerable to becoming obese or developing eating disorders. As described in Chapter III, the YEPQ Uninhibited scale aims to measure levels of disinhibition around food. Unlike the other overeating scales used in this study, though, the Uninhibited scale reflects enjoyment of food and eating, discomfort produced by lack of food and contains no negative self-attributions, which sets it apart from the other scales (Kristeller & Rodin, 1989). For example, items from the Uninhibited scale are not necessarily negative (e.g., “I buy refreshments at movies, ball games, etc.” and “When the afternoon comes, my stomach growls”), while some of the items within the Oversnacking scale (e.g., “Snacking is a big problem for me”) and the Binging scale (e.g., “I have an uncontrollable urge to eat even to the point of making myself sick”) are negative. Additionally, the finding that the YEPQ Uninhibited scale was not significantly correlated to BMI in the current study suggests that this scale measured disinhibition regarding food, but not necessarily overeating.

In addition, the YEPQ was developed and normed using a sample of mainly White college students so it may not be appropriate to use with a Black American population of women. The low internal consistency of the Uninhibited scale in the current

study may suggest that this scale is not consistently measuring disinhibition around food within the sample population, which limits the conclusions we can draw from analyses using this measure.

Hypothesis II: Racial Socialization will have a significant moderating effect in the relationship between Everyday Discrimination and overeating. Racial socialization was not found to have a significant moderating effect in the relationship between Everyday Discrimination and self-reported overeating. In other words, racial socialization did not buffer the negative effects (i.e., overeating) of perceived racism. This finding does not support prior research that suggests that racial socialization buffers perceived racism (Bowman & Howard, 1985; Neblett et al., 2008; Peters, 1985; Stevenson, 1994) and reduces perceived stress among Black Americans (Neblett et al.).

The discrepancy between the current and prior findings may be explained by how racial socialization was measured in the current study. The TERS (Stevenson et al., 2002) measures how frequently respondents have received verbal or nonverbal messages from their parents or guardians regarding race, culture and race-related injustices. The current study chose to use one scale of the TERS - Cultural Pride Reinforcement (CPR), which describes messages that teach pride and knowledge about the adolescent's culture. The CPR scale was chosen because it has been shown to be correlated with psychological health among Black adolescents (e.g., Brown, 2008; Harris-Britt et al., 2007; Stevenson, 1994; Stevenson, 1997). As a whole the TERS assesses five domains of racial socialization. It may be that acting together, these domains form overall patterns of socialization, which more accurately account for one's socialization experiences than a single scale alone. Other domains of socialization include Cultural Coping with

Antagonism, which describes messages that teach the importance of successfully surviving racial hostility and the role of spirituality and religion in coping; Cultural Appreciation of Legacy, which describes messages that teach the importance of knowing one's heritage; Cultural Alertness to Discrimination, which describes messages that teach awareness of racism and race relations; and Cultural Endorsement of the Mainstream, which describes messages that teach the relative importance of the majority culture's values. Using the TERS scales together may reveal findings in relation to perceived racism and overeating. For example, Neblett et al. (2008) accounted for the interactive nature of the racial socialization process and found that certain patterns of racial socialization buffered perceived stress due to racism. In other words, different combinations of racial messages may provide Black Americans with different strengths, and varying levels of "protection" against the racist events they will encounter.

On the other hand, the CPR scale and TERS as a whole have not been shown to protect individuals from *all* negative outcomes and it is not clear how these measures act in all domains. Although racial socialization has been linked with a number of positive psychosocial outcomes such as greater self esteem, effective anger management, and reduced stress among Black adolescents and young adults (e.g., Constantine & Blackmon, 2002; Fischer & Shaw, 1999; Neblett et al.; Sanders, 1997; Stevenson, 1997), it has also been shown to be linked with decreased academic performance among a sample of 9- and 10-year old, middle income African American boys and girls (Marshall, 1995) and the current study suggests that racial socialization messages focusing on cultural pride may not serve to protect Black American women from overeating in response to perceived racism. It may be that in reinforcing a sense of connectedness with

Black American culture, cultural pride messages enhance self-esteem, but do not diminish overeating. Although some authors suggest that traditional Black American culture embraces high fat “soul” food, and larger female body sizes (Villarosa, 1994), racial socialization was not related to oversnacking, binge eating or BMI in this study. Racial socialization was, however, positively associated with uninhibited eating patterns. While the reason for this is not clear, it may be that the traditional Black American comfort with larger female body sizes contributes to less preoccupation with thinness and food restraint than is prevalent in mainstream American culture (Rogers Wood & Petrie, 2010). As Villarosa explains, the Black community has been more likely to accept “large and voluptuous” women than White Americans have been... and “in contrast to the pursuit and near-worship of thinness in America, Africans view full-figured bodies as symbols of health, wealth, desire, prosperity, and fertility... and the cultural appreciation for and comfort with large women remains in the African American community today” (p. 4). Clearly, factors that may protect Black American women from overeating and obesity must incorporate a consideration of the cultural implications of food and weight within the Black American community.

The discrepancy between the current and prior findings may also be explained by the use of the TERS with an adult population of women. Developed and normed with Black American adolescents, the TERS was designed to assess the most relevant social context for youths and may not be the most appropriate measure to use with a sample of women ranging in age from 18-73 years. It may be that there are more relevant protective factors and experiences within the current contexts of the study sample. These

factors could include ethnic identity, relational health, experiences in college and work, spirituality, etc. This idea will also be discussed further in the Future Research section.

Hypothesis III: Perceived stress will mediate the relationship between Everyday Discrimination and overeating. The current study showed that perceived stress fully mediated the relationship between perceived racism and overeating as measured by the YEPQ Binging scale. The current study also showed that perceived stress partially mediated the relationship between perceived racism and overeating as measured by the YEPQ Oversnacking scale, and the YEPQ Total scale. These findings support prior research that links perceived racism with perceived stress among Black Americans (Clark et al., 1999; Mays et al., 2007; Utsey & Ponterotto, 1996), and that links perceived stress with overeating within the general population (O'Connor et al., 2008). In addition, this finding supports research and theories that suggest that perceived stress mediates the relationship between perceived racism and overeating (Gee et al., 2008; Harrington et al., 2006; Harris & Kuba, 1997; Mastria, 2002; Root, 1990; O'Neill, 2003; Smolak & Striegel-Moore, 2001; Talleyrand, 2006; Thompson et al., 1994, 1996).

Clark et al. (1999) and Talleyrand (2006) propose theoretical models that help to explain why stress mediates the relationship between perceived racism and overeating among Black American women. As described in Chapter III, Clark et al.'s model builds on the general stress-coping model proposed by Lazarus and Folkman (1984), and suggests that racism can result in stress, which can lead to coping responses (Burchfield, 1979; Lazarus & Folkman; Pearlin, 1989) including the use of food to temporarily feel in control (e.g., Bullock & Houston). Using Clark et al.'s model, Talleyrand suggests that eating disorders may serve as a coping response to the stress of everyday racism among

Black American women and points out that Black American women face the double jeopardy of racism and sexism in the United States and that efforts to respond to these stressors can lead to eating disorders - especially binge eating (Harrington et al., 2006; Harris & Kuba, 1997; Mastria, 2002; Root, 1990; Smolak & Striegel-Moore, 2001; Thompson, 1994, 1996; Villarosa, 1994).

This finding also contributes to the larger literature on general stress, which links perceived stress to a range of negative psychological and physical outcomes including low birth weight and infant mortality (James, 1993), depression (Kendler et al., 1995), the healing process (Kiecolt-Glaser, Marucha, Malarkey, Mercado, & Glaser, 1995), breast cancer survival (Spiegel, Bloom, Kraemer, & Gottheil, 1989), heart disease (Jiang et al., 1996; Kamarack & Jennings, 1991; Rozanski, Blumenthal, & Kaplan, 1999), upper respiratory infections and the development of clinical colds (Cohen, Tyrrell, & Smith, 1991). As Clark et al. (1999) describe, the magnitude and duration of negative health outcomes is determined by how an individual responds to stress. This response depends on availability and use of coping responses, which, for Black American women, may be culturally determined. Villarosa (1994) notes that “stress can weaken the immune system leading to high blood pressure, diabetes, heart problems, frequent headaches, recurring colds, tight muscles, irritability, depression, but because of African American cultural norms, Black women take care of everyone before they take care of themselves – responding to stress in ways that make matters worse: by ignoring the symptoms, working harder to ‘get things under control’ or by trying to escape through food, drugs, alcohol, or nicotine” (Villarosa, p. 371). Given the destructive and ubiquitous nature of

stress, future research should examine both the sources of stress in the lives of Black American women, and the ways in which Black American women respond to stress in order to better understand how to prevent and treat stress-related illnesses, and boost the overall physical and emotional health of Black American women. As Villarosa wrote, “one of the best ways for we sisters to improve our emotional health is to begin to look at stress and the role it plays in our lives (p. 369).

Hypothesis IV: Racial Socialization will be significantly and negatively related to overeating. The current study did not show that racial socialization was significantly and negatively related to overeating. In other words, Black American women who reported experiencing more messages of racial socialization did not report less overeating patterns. This finding contradicts the small amount of research that exists regarding racial socialization and overeating. Using qualitative methods, Ward (2007) examined the experience of racial socialization among Black American female adolescents and found that racial socialization may protect them from maladaptive coping strategies such as overeating. This discrepancy in findings may be a result of differences in how racial socialization was defined in each study, and the difference in the age of the samples. In Ward’s study, defines racial socialization broadly, while the current study measures racial specifically as hearing messages promoting cultural pride. As suggested in the discussion regarding Hypothesis II, the CPR scale may not tap into a protective factors for overeating and obesity because of the value that Black American culture places on eating and larger bodies (Villarosa, 1994). Also as suggested in the discussion regarding Hypothesis II, protective factors for overeating may exist within more salient contexts for adult women than one’s family of origin such as one’s school, work, church, or current

family environment.

Unexpectedly, racial socialization was found to be significantly and positively related to overeating as measured by the YEPQ Uninhibited scale. In other words, Black American women who reported receiving more cultural pride messages while growing up also reported greater disinhibition around food. Although the explanation for this finding is unclear, it does seem to support the idea that identity with one's culture may promote greater levels of comfort regarding food (Talleyrand, 2006; Villarosa, 1994).

Respondents who heard more cultural pride messages while growing up may have felt more oriented toward their own culture and developed a culturally based appreciation for their bodies (Root, 1990; Villarosa) and food (Abrams et al., 1993). Additionally, Constantine and Blackmon (2002) suggested that Black Americans who received more cultural pride messages had higher self-esteem (Constantine & Blackmon), which might enable them to enjoy food without self-consciousness.

Again, the YEPQ Uninhibited scale is acting differently from the other overeating scales suggesting that it is measuring something unique. This will be discussed further in future research. In addition, it must be reiterated that the internal consistency of the YEPQ Uninhibited scale is low, so results must be interpreted with caution.

Hypothesis V: Perceived stress will mediate the relationship between racial socialization and overeating. Because the expected relationship between racial socialization and overeating did not exist (Hypothesis IV), no further analysis was conducted.

Supplemental Analysis

Correlations, t-tests, ANOVAs and MANOVAs were performed in order to explore some of the demographic risk factors. There were significant findings with regard to SES, BMI, Age and Birthplace.

SES was significantly correlated with Everyday Discrimination. More specifically, respondents of lower SES experienced more perceived racism. This finding may be explained by the possibility that respondents of lower SES experience discrimination related to racism *and* SES, and therefore experience more discrimination overall. Because it is nearly impossible to distinguish whether discrimination is racially based, or socioeconomically based, respondents experiencing both would likely report all experiences of discrimination as racial discrimination. It is also possible that respondents of lower SES feel less empowered and more oppressed in general due to concurrently belonging to two oppressed groups. In the main analysis, the variance in the overeating measures that was attributable to SES was partialled out. As a result, we can say that regardless of SES, perceived racism accounts for a significant amount of variance in overeating.

BMI was also significantly correlated with Everyday Discrimination. In other words, respondents with a higher BMI also reported experiencing more perceived racism. Again, it is difficult to know what this correlation exists, but like respondent of lower SES, it is possible that respondents of higher BMI experienced more discrimination related to racism *and* being overweight, and therefore reported experiencing more racial discrimination because it is nearly impossible to distinguish between the two types of discrimination. It is also possible that respondents of higher BMI feel less empowered

and more oppressed in general due to concurrently belonging to two oppressed groups. In the main analysis, the variance in the overeating measures that was attributable to BMI was partialled out. As a result, we can say that regardless of BMI, perceived racism accounts for a significant amount of variance in overeating.

BMI was also significantly correlated with overeating as measured by the BES, the YEPQ Oversnacking scale, the YEPQ Binging scale and the YEPQ Total scale. In other words, respondents with a higher BMI reported more overeating behaviors. These relationships make sense as overeating is related to gaining weight. BMI was not significantly correlated with the YEPQ Uninhibited scale. In other words, respondents with a higher BMI did not report more uninhibited eating behaviors. This finding is discussed under Hypothesis I, and will be discussed further in Future Research.

Age was found to be significantly and negatively correlated with YEPQ Uninhibited. In other words, older respondents reported more inhibited eating patterns. The reason for this finding is unclear, but may reflect an increased awareness of health with age, or an increased need to pay attention to food intake as health declines with age. Given the low reliability of the YEPQ Uninhibited scale, these results should be interpreted with caution.

MANOVA's revealed that, taken together, the five eating pattern variables differ significantly by birthplace, but that the individual dimensions of eating did not differ significantly by birthplace. Looking at the estimated means of the eating pattern variables by birthplace, it can be seen that participants born in the United States have slightly higher mean scores on the YEPQ Oversnacking Scale, the YEPQ Binging Scale, and the

YEPQ Total Scale. Participants who were not born in the United States have slightly higher mean scores on the YEPQ Uninhibited Scale and the BES scale. These findings again underscore that the YEPQ Uninhibited scale and the BES scale act differently than the YEPQ Oversnacking, Binging and Total scales. It is difficult to know, though, what is causing the interaction pattern between birthplace and overeating scales. While analyzing a MANOVA is beyond the scope of the current study, future research could help to elucidate this relationship.

Implications of Findings: Counseling Practice and Public Policy

As described under Hypothesis III, the current study's finding that perceived racism is related to overeating by way of stress supports the theoretical models developed by Clark et al. (1999) and Talleyrand (2006), which suggest that eating disorders may serve as a coping response to the stress of everyday racism among Black American women. This broad understanding should be used to inform counseling practice and public policy.

Counseling Practice

The current study's findings support the theory that contextual stressors motivate disordered eating among Black American women (Harris & Kuba, 1997; Lynch, 2004; Mastria, 2002; Root, 1990; Smolak & Striegel Moore, 2001; Thompson, 1994, 1996). These stressors (e.g., racism) must be considered by mental health professionals working with Black American women with eating concerns. Given the evidence that perceived racism, stress, and overeating, mental health professionals must not only be aware of racism and the everyday stress it causes in the lives of Black Americans, but they must be willing and able to talk about culture, race, and racism within counseling sessions.

Talleyrand (2006) provides a number of further suggestions for mental health professionals working with Black American women who may overeat. In order to better understand the cultural underpinnings of a client's relationship with food and her body, Talleyrand stresses the importance of attending to the cultural themes in clients' lives and acknowledging the multiple identity statuses of Black American women as caregivers, providers, survivors, women, people of color, and people of various ethnic backgrounds. In addition, understanding a clients' level of acculturation to the dominant White culture or to their own indigenous culture would help to elucidate a client's relationship with food and their body, and the types of eating patterns they may embrace. A client who identifies with the dominant White culture may be at higher risk for internalizing a thin-ideal and body dissatisfaction, which are consistent with dominant White norms and restrictive eating patterns. Talleyrand suggests the use of Landrine and Klonoff's (1996) African American Acculturation Scale to help in this assessment as well as Helms' (1995) Racial Identity Model to help provide information about how clients identify with their socially ascribed racial group. Lastly, assessing the degree to which clients internalize racial oppression, identifying other contextual (e.g., sexism and classism), and proximal (e.g., stressful relationships) sources of stress in a client's life and identifying conscious and unconscious ways in which clients respond to these stresses, will help mental health professionals conceptualize the role stress plays in clients' lives, and work with clients to reduce and better cope with stress.

Also, given the increasing numbers of Black American women experiencing disordered eating symptoms and given the high prevalence of overweight and obesity within this population, mental health professionals must learn to recognize eating

disturbances within this population. Although overeating and binge eating are the most common forms of disordered eating among Black American women leading to obesity and related illnesses, they are almost completely absent from the *DSM-IV*. By learning to recognize a broad range of eating patterns that are problematic instead of being limited to *DSM-IV* diagnoses and restrictive eating patterns most commonly observed among White women, mental health professionals will be able to better attend to the needs of Black American women with eating concerns. Ultimately, the *DSM* needs to be updated to be more culturally sensitive and relevant. Hopefully as counseling practices become more informed and targeted, counseling for Black American women will become more relevant, more culturally sensitive, and more helpful.

Public Policy

With the rise in obesity rates, and near \$150 billion dollars a year being spent on treating obesity-related illnesses (Finkelstein, Trogdon, Cohen, & Dietz, 2009), federal and local dollars are being channeled to combat overeating and sedentary lifestyles. For example, In February, 2010, Michelle Obama announced a nationwide campaign called “Let’s Move,” aimed to end childhood obesity in a single generation. This program is based on four key pillars: getting parents more informed about nutrition and exercise, improving the quality of food in schools, making healthy foods more affordable and accessible for families, and focusing more on physical education (Presidential Memorandum, 2010). In addition, a total of \$372 million in prevention grants has been awarded nationwide to boost healthy living. Boston, for example, was one of 44 cities to be awarded \$12.5 million dollars to combat obesity and smoking under this national program. According to Boston’s mayor, Tom Menino, the city is aiming to reduce obesity

rates by 30 percent in children and 20 percent in adults over the next five years, and close the health disparities between Blacks, Latinos, and Whites (City of Boston press release, 2010).

When compared to the amount of money being spent on treatment of obesity, investing in prevention measures is cost effective. In addition, these measures would reduce overall human suffering, and promote social justice. If appropriately directed, prevention interventions offer a means to prevent suffering among those who suffer disproportionately from psychological distress, yet have been underserved by traditional mental health systems (Kenny & Hage, 2009) such as Black American women. Albee (1983; Albee & Ryan-Finn, 1993) suggests that mental and emotional distress is a direct function of oppressive environmental conditions (such as racism) divided by the strengths of the individual and/or group to resist the negative effects of oppression. Therefore, prevention requires not only intervention at the personal level to empower individuals and groups, but also at the environmental level to change structures of dominance, marginalization, exploitation, and violence that contribute to oppression and social injustice (Kenny & Hage).

In order to inform prevention measures on both individual and contextual levels it is essential to understand eating behaviors among adults and children of different racial and ethnic backgrounds. Like “Let’s Move,” most current interventions focus on individual factors related to overeating, overweight and obesity such as food intake and physical activity. But these interventions may neglect less explored contextual factors contributing to overeating, overweight and obesity such as contexts of oppression. Research that can identify the range of emotional and cognitive factors related to

overeating, account for various demographic factors (such as age, SES, race), and account for contextual factors (such as racism, sexism, and environments of poverty) will be able to elucidate the different pathways by which individuals across various groups overeat, and identify unique predictors and protective factors for overeating within these groups. This knowledge will enhance the basic intervention model (increase healthy eating/increase physical activity) by providing a consideration of cultural and racial factors creating new more specific models that will move the fight against obesity forward for multiple groups in multiple ways. In other words, public policy should not only be aimed at reducing food intake and increasing exercise, but it should also be aimed at reducing racism and increasing culturally appropriate supports for all populations.

The current study is one of the first to contribute an understanding of overeating that accounts for contextual, emotional and behavioral factors simultaneously. Public health policy should be informed by the current study's finding that perceived racism may lead to overeating by way of stress among Black American women.

Limitations

Several limitations should be kept in mind when interpreting the current study's findings. First, the data are correlational, so causal links between perceived racism, racial socialization, stress, and overeating cannot be assumed. Second, the study sample was gathered on-line through college campuses and professional contacts. Because the sample is non-random, it is not fully representative of all Black American women and the ability to generalize the results is limited. Third, Although this study identified the ethnic backgrounds of participants, the sample size was not sufficient to see how ethnic background may contribute to eating patterns. Hopefully, though, being clear about the

varied backgrounds of the Black American women in this study will be helpful to future research that the current study may inform. Fourth, this study did not account for the developmental differences of participants given their widely varied ages. Fifth, all of the measures were self-report, and thus may be limited by self-awareness, social desirability, and honesty in responding. It needs to be considered, for example, whether the measures assess actual feelings and behaviors, or differences in self-awareness or the desire to be socially appropriate. Sixth, most of the study measures used frequency response scales and the measures were presented in the same order for all respondents, so a bias in response may exist. Seventh, the PSS and the eating scales (the BES and the YEPQ) were not developed or normed with Black Americans specifically. Although the scale's internal consistencies were acceptable when used with the sample in the current study (except for YEPQ Uninhibited), little has been done to validate the scales with the current study's population. In other words, we cannot be sure exactly what is being consistently measured when these scales are used with Black American women. Similarly, the TERS was developed and normed with Black American adolescents, but in this study, it was used with Black American adults (age 18 years and older). As a result, respondents were required to reflect back on messages they heard while growing up instead of reporting the messages they presently hear. Use of the TERS in this study may be limited by respondents' ability to reflect back accurately. In addition, within respondents' current contexts more salient factors may exist that protect against racism. Or, factors with respondents' current contexts may even diminish the impact of racial socialization messages that they heard while growing up.

Future Research

Future research should seek to address the limitations of the current study and further assess and expand hypotheses proposed in this dissertation. Developing and/or norming stress and eating measures with Black American populations would be a valuable first step in moving our understanding of eating behaviors among Black American women forward. This line of research could also help to inform future editions of the *DSM* in the effort to make diagnoses more culturally relevant. As described in this dissertation, our current understanding of disordered eating patterns rests entirely on White middle to upper class cultural norms. Developing measures that reflect the cultural underpinnings of eating patterns among Black Americans would be particularly useful in defining problematic behaviors within this population and how to address them.

Further examining the differences between the YEPQ Uninhibited scale and the rest of the overeating measures may contribute to an understanding of cultural differences in eating patterns and help in the development and norming of eating scales to be used with Black American women. In the current study, it was particularly unclear as to why the YEPQ Uninhibited scale acted differently from the rest of the YEPQ overeating scales. The YEPQ Uninhibited scale was significantly and positively related to the CPR scale, was not significantly related to BMI, was not related to perceived racism, and was endorsed more heavily by participants who were not born in the United States. Together, these findings may suggest that the YEPQ Uninhibited scale taps into culturally determined eating behaviors, which should be explored in future research.

Although this study did not find the CPR scale to buffer the relationship between perceived racism and overeating, these relationships could be explored further using all racial socialization scales. Given the plethora of evidence that racial socialization acts as a protective buffer to racial stress, it makes sense to continue working to understand racial socialization's potential role in protecting Black American women from overeating, obesity and related illnesses. In addition, more contextually relevant buffers should also be explored for Black American women for whom messages heard while growing up may not be as salient as factors within their current contexts. For example, social support, spirituality, or religious participation may be relevant protective factors for Black Americans (Clark et al., 1999; Villarosa, 1994).

Future research should not only explore other potential moderators between perceived racism and overeating, but should also explore other potential mediators. Using the Affect Regulation Model instead of the Stress-Diathesis Model, mediators such as depression, anxiety, and self-esteem could be examined. In addition, future research should expand the overall model proposed in this study by exploring other predictors of overeating as well as other outcomes related to perceived racism. For example, classism and sexism have been proposed as other important contextual predictors of overeating (Talleyrand, 2006), but have not been explored in the literature. Additionally, smoking and drinking have been proposed as other potential health outcomes related to perceived racism (Villarosa, 1994), but have not been explored among Black American women specifically. Creating a larger more complete model of predictors, mediators, moderators and outcomes related to the health of Black American women and accounting for the

potential interactive nature of these variables, will help to inform specific and complex prevention and intervention measures aimed at supporting the overall well-being of Black American women. In addition, accounting for demographic variables such as ethnicity, culture, and age will contribute to a much-needed understanding of how ethnicity, culture, and developmental stages contribute to these models.

Lastly, future research should aim to prevent racism in an effort to enhance the health of Black Americans. For example, understanding how White people effectively learn about race and racism could help to inform educational, counseling, and social interventions with White people who may be knowingly or unknowingly contributing to a racist environment as well as higher levels of stress and poorer health outcomes among Black Americans.

Despite this study's methodological limitations and the need for further study, the current findings suggest that perceived racism may contribute to overeating among Black American women as a result of stress.

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Appendix A: Administrator Invitation (e-mail)

Dear Administrator,

My name is Meg Connolly. I am a doctoral student in the counseling psychology program at Boston College. For my dissertation research, I am conducting a study on the effects of racism and stress on eating patterns among Black American women. The purpose of this study is to better understand how eating disorders develop among Black American women, and I hope the findings of my study will help to support the overall health of this population.

I hope you will consider distributing the attached e-mail to Black undergraduate and graduate women who may be interested in participating in my study. Participation is easy as the questionnaire is online, and can be completed at the student's convenience. Completing the questionnaire should take approximately 15-20 minutes.

The questionnaire includes measures that examine attitudes, behaviors, and experiences regarding racism, stress, and eating. All information collected during this study will remain anonymous and confidential and therefore, participants are not required to identify themselves by name. While the research topic may be emotional for some students to think about, there are no other known risks to participating in this study. If students have questions or concerns, they will be encouraged to call me, or to connect with a counselor or advisor.

For their time, participants will be eligible to enter a raffle drawing for one of eight prizes if they choose. Prizes include a \$100 gift certificate to Spafinder (which can be used at over 4000 spas worldwide), one of two \$50 gift certificates to amazon.com, or one of five \$25 American Express gift cards. If a student chooses to enter the raffle, her name and e-mail address will be collected and will be kept separate from her confidential and anonymous responses to the survey. Her name and e-mail address will only be used for purposes of the raffle. Prizes will be awarded once the data collection is complete.

If you have any questions, please feel free to e-mail me at megconnolly@gmail.com, or to call me at 617 308 5529.

Thank you so much for your time and consideration.

Sincerely,

Meg Connolly
Doctoral Candidate, Counseling Psychology
Department of Counseling, Developmental, & Educational Psychology
Lynch School of Education
Boston College

Appendix B: Participant Invitation (e-mail)

Dear Student,

My name is Meg Connolly. I am a doctoral student in the counseling psychology program at Boston College. For my dissertation research, I am conducting a study on the effects of racism and stress on eating patterns among Black American women. The purpose of this study is to better understand how eating disorders develop among Black American women, and I hope the findings of my study will help to support the overall health of this population.

I hope you will consider participating in this study. It is simple to do - just click on the link below at your convenience. You will be taken to a consent form, which will explain the study's procedures. You will need to read and accept this form if you would like to participate in the study. Then, you will be connected to an online survey, which will take about 15-20 minutes to complete. All of your answers will be completely anonymous and will be kept confidential.

By completing the online survey, you will be eligible to enter a raffle drawing for one of eight prizes. Prizes include a \$100 gift certificate to Spafinder (which can be used at over 4000 spas worldwide), one of two \$50 gift certificates to amazon.com, or one of five \$25 American Express gift cards. If you choose to enter the raffle, your name and e-mail address will be collected and will be kept separate from your confidential and anonymous responses to the survey. Your name and e-mail address will only be used for purposes of the raffle. Prizes will be awarded once the data collection is complete.

If you have any questions, please feel free to e-mail me at megconnolly@gmail.com, to call me at 617 308 5529.

Thank you so much for your time and consideration.

Sincerely,

Meg Connolly
Doctoral Candidate, Counseling Psychology
Department of Counseling, Developmental, & Educational Psychology
Lynch School of Education
Boston College

Appendix C: Informed Consent

Boston College Consent Form

Boston College Lynch School of Education
Department of Counseling, Developmental, and Educational Psychology

Informed Consent for Participation as a Subject in Everyday racism, racial socialization, and binge eating among Black American women: Identifying stress as a mediator

Investigator: Meg Connolly

Date Created: May 27, 2009

Introduction

You are being asked to be in a research study of how racism, stress, and eating behaviors are related. You were selected as a possible participant because you are a Black American college-age woman. Please read this form and ask any questions that you may have before agreeing to be in the study by e-mailing or calling Meg Connolly, the principle investigator (please see contact information below).

Purpose of Study:

The purpose of this study is to better understand how eating disorders develop among Black American women. The total number of participants in this study is expected to be 200 Black American women from colleges across the United States.

Description of the Study Procedures:

If you agree to be in this study, you will be asked to complete the following questionnaire, which includes questions about your attitudes, behaviors, and experiences regarding racism, stress, and eating. Completing the questionnaire should take about 15 to 20 minutes.

All information collected during this study is anonymous and will remain confidential. Therefore, you will not be required to identify yourself by name.

Risks/Discomforts of Being in the Study:

You may experience emotional distress while answering questions about stress, racism, or eating patterns in your life since these can be sensitive topics. If this is the case, please contact Meg Connolly, the principle investigator of this study at 617 308 5529, or contact a counselor or advisor.

Benefits of Being in the Study:

The benefits of participation are to contribute to the understanding of Black American women's development and overall health. It is hoped that the findings of this study will help clinicians and doctors better treat eating disorders among Black American women.

Payments:

To thank you for your time, participation in the study makes you eligible to enter a raffle drawing for one of eight prizes. Prizes include a \$100 gift certificate to Spafinder (which can be used at over 4000 spas worldwide), one of two \$50 gift certificates to amazon.com, or one of five \$25 American Express gift cards. You do not need to enter the raffle, but if you choose to, please provide your name and e-mail when prompted at the end of the survey. Your name and e-mail will be kept separate from your confidential and anonymous responses to the survey and will only be used for purposes of the raffle. Prizes will be awarded once the data collection is complete.

Costs:

There is no cost to you to participate in this research study.

Confidentiality:

The records of this study will be kept private. In any sort of report I may publish, I will not include any information that will make it possible to identify a participant. All electronic research information will be coded and secured using a password protected file. Access to the records will be limited to the principle investigator; however, please note that the Institutional Review Board and internal Boston College auditors may review the research records.

Voluntary Participation/Withdrawal:

Your participation in this study is voluntary. If you choose not to participate, it will not affect your current or future relations with the college you attend. You are free to withdraw from this study at any time, for whatever reason. There is no penalty or loss of benefits for not taking part or for stopping your participation. Withdrawal from the study does not jeopardize grades, nor risk loss of present or future relationships with faculty at any university.

Contacts and Questions:

The researcher conducting this study is Meg Connolly. For questions or more information concerning this research you may contact her at megconnolly@gmail.com. If you believe you may have suffered a research related injury, contact Meg Connolly at 617 308 5529 who will give you further instructions. If you have any questions about your rights as a research subject, you may contact: Director, Office for Human Research Participant Protection, Boston College at (617) 552-4778, or irb@bc.edu

Copy of Consent Form:

You can print a copy of this form to keep for your records and future reference.

Statement of Consent:

I have read the contents of this consent form and have been encouraged to ask questions. I have received answers to my questions. I give my consent to participate in this study. I can print an electronic copy of this form if I choose to.

Appendix D: Measures

Demographic Questionnaire
(modified from Talleyrand, 2002)

Instructions: Please fill out the following information to the best of your ability. The information gathered here will be useful in understanding the outcome of this research.

1. Age
2. Are you male/female/other?
3. What racial classification do you use? (check as many as applies)
 - Black
 - White
 - Asian
 - Latina
 - Other
4. What ethnic classification do you use?
(fill in the blank)
5. What racial classification is your mother or primary maternal caretaker? (check as many as applies)
 - Black
 - White
 - Asian
 - Latina
 - Other
6. What ethnic classification does your mother or primary maternal caretaker use?
(fill in the blank)
7. Where was your mother or primary maternal caretaker born (if known)?
 - United States
 - Other (fill in the blank)
8. What racial classification is your father or primary paternal caretaker? (check as many as applies)
 - Black
 - White
 - Asian
 - Latino
 - Other
9. What ethnic classification does your father or primary paternal caretaker use?

- (fill in the blank)
10. Where was your father or primary paternal caretaker born (if known)?
United States
Other (fill in the blank)
11. Where were you born?
United States
Other (specify)
12. What year in school are you?
Freshman
Sophomore
Junior
Senior
Graduate
13. What is your best estimate of your immediate family's socioeconomic class? (please check only one)
Upper class
Middle class
Upper middle class
Lower middle class
Lower class
14. Your current weight
15. Your current height
16. Please indicate the statement which best describes the environment of the high school that you attended:
Predominantly Black
Equally Black and White
Predominantly White
Predominantly (fill in the blank)
17. Please indicate the statement which best describes the neighborhood in which you grew up:
Predominantly Black
Equally Black and White
Predominantly White
Predominantly (fill in the blank)

Everyday Discrimination Scale
(Williams, Yu, Jackson & Anderson, 1997)

Assesses chronic, routine and less overt experiences of discrimination that have occurred in the prior year.

Stem question: "In your day to day life, how often have the following things happened to you *because of your race*?"

Frequency response scale ranges from 1 (never) to 6 (almost everyday)

1. You are treated with less courtesy than other people.
2. You are treated with less respect than other people.
3. You receive poorer service than others at restaurants or stores.
4. People act as if they think you are not smart.
5. People act as if they are afraid of you.
6. People act as if they think you are dishonest.
7. People act as if they're better than you are.
8. You are called names or insulted.
9. You are threatened or harassed.
10. You are followed around in stores.
11. Your teachers treat you with less respect than other students.
12. Your teachers act as if they think you are not smart.
13. Your teachers act as if they are afraid of you.

Higher scores indicate a greater number of events that occurred in the previous year.

Teenager Experience of Racial Socialization
(Stevenson, Cameron, Herrero-Taylor, & Davis, 2002)

Assesses how frequently respondents have received verbal or nonverbal messages from their parents or guardians regarding race, culture and race-related injustices. This measure presupposes proactive and protective aspects to parenting strategies in families of color. The Cultural Pride Reinforcement scale will be used for the current study.

Stem question: "Do your parents or caregivers say to you any of the following statement now or when you were younger? Circle the number on the line depending on how often you remember hearing any of these messages: 1 = never, 2 = a few times, 3 = lots of times. Circle only one number per question. Thank you."

Cultural Pride Reinforcement:

You should be proud to be Black.

If you work hard, then you can overcome barriers in life.

A belief in God can help a person deal with tough life struggles.

Getting a good education is still the best way for you to get ahead.

"Don't forget who your people are because you may need them someday."

Be proud of who you are.

You need to learn how to live in a White world and a Black world.

Never be ashamed of your color.

Racism is not as bad today as it used to be before the 1960s.

Total scores are obtained by summing the numerical responses from all items, and higher scores indicate more experiences of racial socialization.

Perceived Stress Scale
(Cohen, Kamarck, & Mermelstein, 1983)

Assesses the degree to which situations in one's life are appraised as unpredictable, uncontrollable, and overloading.

Instructions: "The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate."

For each question choose from the following alternatives:

0. never; 1. almost never; 2. sometimes; 3. fairly often; 4. very often

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you have been unable to control the important things in life?
3. In the last month, how often have you felt nervous and "stressed?"
4. In the last month, how often have you how often have you dealt successfully with irritating life hassles?
5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?
6. In the last month, how often have you felt confident about your ability to handle your personal problems?
7. In the last month, how often have you felt that things were going your way?
8. In the last month, how often have you found that you could not cope with all the things you had to do?
9. In the last month, how often have you been able to control irritations in your life?
10. In the last month, how often have you felt that you were on top of things?
11. In the last month, how often have you been angered because of things that happened that were outside of your control?
12. In the last month, how often have you found yourself thinking about things that you have to accomplish?
13. In the last month, how often have you been able to control the way you spend your time?
14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Scores are obtained by reversing the scores on the seven positive items (e.g., 0=4, 1=3, 2=2, 3=1, 4=0), and then summing across all 14 items. Items 4, 5, 6, 7, 9, 10 and 13 are the positively stated items.

Binge Eating Scale
(Gormally, Black, Daston, & Rardin, 1982)

Assesses the severity of binge eating. The measure includes questions about behavioral and cognitive/emotional aspects of binge eating, and provides a total severity score.

Below are a group of numbered statements. Read all of the statements in each group and mark on this sheet the one that best describes the way you feel about the problems you have controlling your eating behavior.

#1

- (0) 1. I don't feel self-conscious about my weight or body size when I'm with others.
- (0) 2. I feel concerned about how I look to others, but it normally does not make me feel disappointed with myself.
- (1) 3. I do get self-conscious about my appearance and weight which makes me feel disappointed in myself.
- (3) 4. 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

- (0) 1. I don't have any difficulty eating slowly in the proper manner.
- (1) 2. Although I seem to "gobble down" foods, I don't end up feeling stuffed because of eating too much.
- (2) 3. At times, I tend to eat quickly and then, I feel uncomfortably full afterwards.
- (3) 4. I have the habit of bolting down my food, without really chewing it. When this happens I usually feel uncomfortably stuffed because I've eating too much.

#3

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

#4

- (0) 1. I don't have the habit of eating when I am bored.
- (0) 2. I sometimes eat when I am bored, but often I'm able to "get busy" and get my mind off food.
- (0) 3. I have a regular habit of eating when I'm bored, but occasionally, I can use some other activity to get my mind off of eating.
- (2) 4. I have a strong habit of eating when I am bored. Nothing seems to help me break the habit.

#5

- (0) 1. I'm usually physically hungry when I eat something.

- (1) 2. Occasionally, I eat something on impulse even though I really am not hungry.
- (2) 3. 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.
- (3) 4. Even though I am not physically hungry, I get a hungry feeling in my mouth that only seems to be satisfied when I eat food, like a sandwich, that fills my mouth. Sometimes, when I eat the food to satisfy my mouth hunger, I then spit the food out so I won't gain weight.

#6

- (0) 1. I don't feel any guilt or self-hate after I overeat.
- (1) 2. After I overeat, occasionally I feel guilt or self-hate.
- (3) 3. Almost all the time I experience strong guilt or self-hate after I overeat.

#7

- (0) 1. I don't lose total control of my eating when dieting even after periods when I overeat.
- (2) 2. Sometimes when I eat a "forbidden food" on a diet, I feel like I "blew it" and eat even more.
- (3) 3. 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.
- (3) 4. 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 "famine."

#8

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

#9

- (0) 1. My level of calorie intake does not go up very high or down very low on a regular basis.
- (1) 2. Sometimes after I overeat, I will try to reduce my caloric intake to almost nothing to compensate for the excess calories I've eaten.
- (2) 3. 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.
- (3) 4. 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

- (0) 1. I usually am able to stop eating when I want to. I know when "enough is enough."
- (1) 2. Every so often, I experience a compulsion to eat which I can't seem to control.

- (2) 3. Frequently, I experience strong urges to eat which I seem unable to control, but at other times I can control my eating urges.
- (3) 4. I feel incapable of controlling urges to eat. I have a fear of not being able to stop eating voluntarily.

#11

- (0) 1. I don't have any problem stopping eating when I feel full.
- (1) 2. I usually can stop eating when I feel full but occasionally overeat leaving me feeling uncomfortably stuffed.
- (2) 3. I have a problem stopping eating once I start and usually I feel uncomfortably stuffed after I eat a meal.
- (3) 4. Because I have a problem not being able to stop eating when I want, I sometimes have to induce vomiting to relieve my stuffed feeling.

#12

- (0) 1. I seem to eat just as much when I'm with others (family, social gatherings) as when I'm by myself.
- (1) 2. Sometimes, when I'm with other persons, I don't eat as much as I want to eat because I'm self-conscious about my eating.
- (2) 3. Frequently, I eat only a small amount of food when others are present, because I'm very embarrassed about my eating.
- (3) 4. 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

- (0) 1. I eat three meals a day with only an occasional between meal snack.
- (0) 2. I eat three meals a day, but I normally snack between meals.
- (2) 3. When I am snacking heavily, I get in the habit of skipping regular meals.
- (3) 4. There are regular periods when I seem to be continually eating, with no planned meals.

#14

- (0) 1. I don't think much about trying to control unwanted eating urges.
- (1) 2. At least some of the time, I feel my thoughts are pre-occupied with trying to control my eating urges.
- (2) 3. I feel that frequently I spend much time thinking about how much I ate or about trying not to eat anymore.
- (3) 4. It seems to me that most of my waking hours are pre-occupied by thoughts about eating *or* not eating. I feel like I'm constantly struggling not to eat.

#15

- (0) 1. I don't think about food a great deal.
- (1) 2. I have strong cravings for food but they last only for brief periods of time.
- (2) 3. I have days when I can't seem to think about anything else but food.
- (3) 4. Most of my days seem to be pre-occupied with thoughts about food. I feel like I live to eat.

#16

- (0) 1. I usually know whether or not I'm physically hungry.
- (1) 2. Occasionally, I feel uncertain about knowing whether or not I'm physically hungry. At these times it's hard to know how much food I should take to satisfy me.
- (2) 3. Even though I know how many calories I should eat, I don't have any idea what is a "normal" amount of food for me.

Scores are obtained by weighing selected options (0-3), which reflects the binge severity of the statement (0 = no binge eating problems; 3 = severe binge eating problems). The scale is scored by summing the individual weights for all 16 items. Higher scores indicate more severe binge eating problems.

Yale Eating Pattern Questionnaire
(Kristeller & Rodin, 1989)

Assesses the broad spectrum of eating patterns within a non-clinical population. It aims to measure abnormalities of food intake regulation, as is seen among individuals who may be vulnerable to becoming obese or developing eating disorders. The Uninhibited, Oversnacking and Binging scales will be used for the current study.

For each question choose from the following alternatives:

1. never; 2. rarely; 3. sometimes; 4. usually; 5. Always

Uninhibited (9)

I have late night snacks

Eating keeps me feeling better emotionally

I consciously restrain my eating (-)

I'm willing to make a special trip to the store or bake something to satisfy my cravings

When small meals are put in front of me, I am satisfied without second helpings (-)

When the afternoon comes, my stomach growls

When I don't eat (or if dieting) I become nervous and anxious

I feel dizzy and faint if I go without food

I buy refreshments at movies, ball games, etc.

Oversnacking (12)

I snack or nibble while watching tv

I open the refrigerator door to look even though I do not take out any food

I have late night snacks

I eat more on weekends than on weekdays

Watching other people eat makes me hungry

I crave sweets more than other foods

I am more likely to overeat between lunch and dinner

I am more likely to overeat after dinner

When I am bored, I eat for something to do

Snacking is a big problem for me

I'm likely to eat too much if I'm doing something else at the same time (watching tv, reading)

I eat more when I'm alone

Binging (13)

I snack and nibble when preparing meals

I eat more on holidays and vacations than usual

I have an uncontrollable urge to eat even to the point of making myself sick

I eat food even when it doesn't taste very good

I think about and look forward to each meal

I am more likely to overeat at dinner

I eat when I'm not really hungry, just because food is available

I just seem to crave food

I finish whatever is put in front of me
I think about food when I am not actually eating it or preparing it
I like to celebrate important events by going out to eat
I find eating is the most pleasurable activity of the day
I overeat when I'm angry or depressed

Total scores are obtained by reverse scoring the two items (as indicated within the Uninhibited Scale) and summing the numerical responses from all items. Higher scores indicate more overeating behaviors.