# Effects of gendered racism on health practices of Black women: A racial and gender identity model

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# EFFECTS OF GENDERED RACISM ON HEALTH PRACTICES OF BLACK WOMEN: A RACIAL AND GENDER IDENTITY MODEL

Dissertation

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## Abstract

Effects of Gendered Racism on Health Practices of Black Women:
A Racial and Gender Identity Model

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Black women have been more likely to suffer from negative health conditions in comparison to Black men and White women. The biopsychosocial model might suggest that gendered racism and related stress may contribute to poor health, but the model has not been adapted to address the specific psychological factors that uniquely affect Black women's health. Therefore, the purpose of this study was to investigate the relationship between gendered racism and eating and exercise practices of Black women in addition to examining racial and gender identity as potential mediators of the effects of gendered racism on health behaviors of Black women.

Adult Black women (*N*= 153) were invited to complete measures that assessed gendered-racism experiences and stressors, racial identity (BRIAS), womanist identity (WIAS), and health behaviors. Multivariate multiple regression analyses revealed that more experiences of gendered racism were related to lower levels of emotional eating, but higher levels of uncontrolled eating and physical activity. WIAS Immersion/Emersion (idealization of women), WIAS Encounter (confusion regarding gender beliefs) and BRIAS Immersion (idealization of Black people) were significant mediators of these relationships.

A post hoc canonical correlation analysis indicated that experiencing higher levels of gendered racism was related to greater use of less sophisticated racial and gender identity schemas, which were related to lower levels of emotional eating and higher

levels of uncontrolled eating and physical activity. These results suggested that BRIAS and WIAS concepts should be integrated rather than treating them as separate sets of variables when investigating gendered racism.

Collectively, the results of the main and post hoc analyses indicated that race and gender constructs were related to health practices, but not in explicable ways. Limitations of existing measures for studying this population are discussed and results are used to speculate about the implications of biological, psychological, and socio-cultural factors on the health engagement practices of Black women.

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# Chapter 1

## Introduction

Black women in the United States have manifested high incidences of acute and chronic health conditions that allegedly could be alleviated or improved by better lifestyle choices. In comparison to White, Hispanic, and Asian women, Black women have been more likely to die from heart disease and cerebrovascular disease and to struggle with infertility. Also, they have been more likely to have children with low birth weights and who are more likely to experience postnatal mortality (National Centers for Health Statistics, 2012). In addition to these health concerns, Black women have also been more likely to be diagnosed with cancers of the lungs, colon and rectum, pancreas, and bladder. In comparison to Black men, Black women have struggled with higher levels of cholesterol, obesity, and Type 2 diabetes (Jung, 1997; Pascoe & Richman, 2009; Penedo & Dahn, 2005). Overall, in comparison to Black men and White women, Black women have had higher levels of negative health conditions that have earlier onsets and for which they are less likely to receive effective treatments (Taylor & Holden, 2009).

Lifestyle choices such as healthy eating and physical activity could help reduce negative health outcomes for Black women (Caudwell, Gibbons, Finlayson, Naslund, & Bludwell, 2013). However, their health outcomes might also be improved by paying greater attention to reducing the health-related effects of discrimination that Black women experience as members of double (i.e., race and gender) and perhaps triple (i.e., race, gender, and social class) stigmatized sociodemographic groups. Obesity, in particular, has become a major health concern for Black women that potentially could be decreased with healthy eating and exercise practices (Caudwell et al.). Yet Black

women's socio-cultural and gendered racist experiences might influence how they approach healthy eating and exercise practices.

**Socio-Cultural Approaches to Black Women's Health**

Black women typically have larger body sizes than other Black-White gender groups and often consider larger body sizes as normal (Befort, Thomas, Daley, Rhode, & Aluwalia, 2008). Hence, they may tend to feel less pressured to partake in practices that are geared toward weight loss or maintenance. In addition, Black women often believe that the criteria the scientific community uses to determine healthy and unhealthy weights are unrealistic and do not accurately represent healthy standards for them. Therefore, they may be less likely to improve their health-related behaviors if they are not faced with adverse medical conditions. Also, they may reject health improvement strategies if they believe that such behaviors are not culturally congruent.

*Cultural congruence*, defined as shared beliefs, values, and practices, may explain why many Black women are satisfied with their health status and health practices even when their weight is categorized as overweight or obese (Jeffreys, 2006; Kumanyika, Wilson & Guilford-Davenport, 1993). For Black women, losing weight often is more about improving health and decreasing the likelihood of chronic medical conditions (e.g., Type 2 diabetes) than about achieving a body type or size approved by the dominant culture. Moreover, Black women may be less likely to perceive the psychological and social stigma of weight and weight-related behaviors (Kumanyika, et al., 1993). Therefore, the presumed overall positive effects of healthy diet and physical fitness activities may be overshadowed by Black women's social and cultural conditioning whereby large bodies are considered healthy and attractive. The incongruity between

health professionals' perspectives and Black women's own beliefs about their bodies may lead Black women to engage in traditionally prescribed healthy eating and exercise practices with less frequency than Asian, Hispanic, and White women whose cultural conditioning with respect to body image also differs (Kumanyika, et al., 1993; Paxton et al., 2012). Nevertheless, although Black women reportedly lose less weight from exercise than White women, the overall health benefits of strength training and aerobic activity appears to reduce Black women's negative health outcomes regardless of their weight (Gaston, Porter, & Thomas, 2011; Kumanyika, 2005; National Centers for Health Statistics, 2012).

For the most part, health-related research on Black women's life experiences has tended to focus on socioeconomic status as the greatest contributor to weight and diet-related attitudes and practices of Black women (Klesges, DeBron, & Meyers, 2001), while ignoring the possible effects of racism and sexism. To date, no researchers have explored the possibility that Black women's health practices may be related to their efforts to cope with both racial and gender discrimination.

The continual focus on socio-economic variables as the primary source of health disparities leaves important considerations of gendered-racism unexplored. Some studies indicate that the health disparities that negatively affect Black women are consistent across all economic and educational levels. For example, Flegal, Carroll, Kit, and Ogden (2012) found that Black women with less than a high school education were almost twice as likely to struggle with obesity in comparison to Black men and White women with the same educational level. Barrington, Baquero, Borrell, and Crawford (2009) found that Black women with a college education are still nearly twice as likely to experience

obesity in comparison to Black men with a college education and nearly four times as likely to experience obesity in comparison to White women with a college education. Consequently, it is plausible to consider that some aspect of race and gender (e.g., gendered racism) rather than socioeconomic status per se may help explain Black women's health beliefs and related behaviors.

**Black Women's Gendered-Racism Experiences**

For some women gender may be a major source of oppressive actions whereas for some men race might be a source of oppression (Bell, 1990). However, Black women may experience *gendered racism*, which refers to their inseparable experiences of both sexism and racism (Essed, 2001), which may place them in a unique social position relative to other race-gender groups. Being continuously exposed to gendered racism may cause them to self-define healthy bodies (e.g., weight) and, consequently, health-related practices. Gendered-racism experiences may also result in retention of discrimination stress, which might be related to excessive body weight and negative health outcomes (Essed, 2001; King, 1988; Thomas, Witherspoon, & Speight, 2008). Thus, researchers should investigate factors that affect the potential relationship between race-gender discrimination and health-related behaviors for Black women specifically (Clark et al., 1999; Karlsen & Nazroo, 2002).

**Biopsychosocial Model Approach to Black Women's Health**

If one conceptualizes Black women's body size and/or health practices as an illness, then the biopsychosocial model of disease development and interventions might be useful for understanding Black women's behaviors (Engel, 1980; Rodham, 2010; Smith & Nicasso, 1995). This model emphasizes the idea that biological, psychological,

and social factors interact to determine the onset, projection, and outcome of disease. It proposes that stress, which involves internal physiological and psychological reactions, is a product of an individual's psychological and social capacity to deal with negative environmental stimuli or stressors (Clark et al., 1999). In the case of Black women, development of the capacity to cope effectively with gendered racism, an environmental stressor, might reduce negative physiological and social outcomes. Perhaps by focusing specifically on the psychological strategies Black women use to cope with gendered-racism, researchers in psychology can identify those that better meet the mental health needs of Black women and thereby enhance their healthy physiological and social responses to gendered racism.

**Racial and Gender Identity**

In the biopsychosocial model, racial identity and gender identity are psychological coping strategies that Black women may use to cope with stress experienced from discrimination (DeBlaere & Bertsch, 2013; Neblitt & Robertsm, 2013). Racial and gender identity reflect Black women's interpretation of race- and gender-related encounters in a way that helps them face racism and sexism (Helms, 1995; Ossana, Helms, & Leonard, 1992). Racial identity, for example, may help Black women process race-related stimuli by allowing them to interpret race-related events in a way that protects their psyche (Helms, 1995). Therefore, the overall function of racial identity for Black women is to help them resist internalizing societal expectations of their racial group. Gender identity (womanist identity) carries a parallel premise in that having a mature or healthy gender identity involves the ability to reject societal expectations of women and develop a self-definition of one's womanhood (Ossana et al., 1992). Having

a healthy way of viewing one's self with respect to one's own racial and gender group memberships can significantly affect the psychological and physiological responses to social stressors related to racism and sexism. Developing or using strategies that permit Black women to positively cope with discrimination might leave them with the psychological resources needed in order to participate in healthy practices.

**Purpose of the Study**

The purpose of the present study was to assess the interaction between gendered racism and related stress and eating and exercise practices of Black women. In addition, the current study focused on racial and gender identity as psychological coping strategies that might buffer the effects of discrimination stress on healthy choices of Black women. As suggested by the biopsychosocial model, healthy practices should be investigated in light of the biological (e.g., stress response), psychological (e.g., coping processes), and social (e.g., gendered racism) variables that might affect engagement in healthy food and exercise activities. Mitigating the possible negative physiological consequences (e.g., obesity) of gendered racism requires a coping response (e.g., gender and racial identity) that can help Black women deal directly with their social, psychological, and physiological reactions to racial and gender stressors (Clark et al., 1999; Sellers & Shelton, 2003).

The results of the present study may help researchers and practitioners better understand how racial and womanist identity factors translate to healthy behaviors and lifestyle choices (Ard et al., 2013; Stephenson, 2004). By examining multiple theory-based factors, the current research moves beyond merely acknowledging the problem of discrimination and ideally moves toward solutions and interventions to reduce health outcomes that negatively and disproportionately affect Black women.

# Chapter 2

## Review of Literature

Few empirical studies and virtually no theoretical perspectives have examined the factors that uniquely or disproportionately negatively influence Black women's health-related behaviors (Taylor & Holden, 2009). Black women are often excluded from health promotion research and theory and are particularly excluded from research that focuses on relationships between social conditions, mental health attributes, and physical health outcomes, even though biopsychosocial theory proposes that interactions among such factors ought to be a focus of health research (Clark et al., 1999). In addition, more often than not, researchers have focused on either race or gender while discounting the effects of the intersections between both variables in health status and related life experiences (Gay & Tate, 1998). In fact, most studies examining the effects of discrimination on health in Black women have taken an active approach to investigating racial discrimination (e.g., Kwate, Valdimarsdottir, Guevarra, & Bovjerg, 2003) while ignoring the confounding effects of gender discrimination (Moradi & Subich, 2001).

Consistent with biopsychosocial (BPS) theory, basic premises of the current study are that (a) Black women experience a unique form of discrimination attributable to their combined identities as Black and women and (b) effective race-related and gender-related coping strategies may enable them to resist the effects of experienced discrimination. Effective coping strategies may, in turn, enhance their capacity or desire to engage in healthy life practices. This review provides theoretical and empirical evidence pertaining to the effects of discrimination's on Black women and potential styles of coping (i.e., racial and gender identity) that possibly can improve Black women's eating and exercise practices.

## Black Women's Experiences of Discrimination

Black women's experiences of discrimination may contribute to major stress in their lives, which, in turn, affects their biological, psychological, and social abilities to engage in healthy or unhealthy food and exercise practices. *Discrimination* is defined as the unequal treatment of an individual or group based on a particular characteristic such as race or gender, or both in the case of Black women (Ryden & Willetts, 2013). Definitions of racism and sexism, as forms of discrimination, have changed throughout history (Smith & Stewart, 1983). Historically, racism and sexism were characterized as static parallel processes. Today, most scholars would agree that racism and sexism are dynamically interrelated processes for Black women that involve multiple systems and are enacted through differential and unfair treatment that at the interpersonal level (e.g., microaggressions and violence), policies and practices that marginalize and denigrate members of particular groups (e.g., institutional discrimination), and demeaning cultural aspects of a group (e.g., physical appearance and language) (Jones, 1999; Ryden & Willetts, 2013). Regardless of its modality, discrimination involves oppressive attitudes and behaviors that have the ability to affect Black women's tangible (e.g., employment) and intangible (e.g., racial and gender identity) resources (Bell, 1990; Ryden & Willetts, 2013).

### Cultural Discrimination

Cultural discrimination as it pertains to Black women may be defined as the devaluation or marginalization of cultural norms and practices of Black women (Driscoll, Reynolds, & Todman, 2014). Black women endure marginality when systemic practices value other cultural groups' physical being and ignore or devalue the cultural and social

mores of Black women which attribute positive value to Black women's bodies (Bell, 1990). Spencer (2004) used a case of Venus and Serena Williams, Black female professional tennis players, as an example of race-gender specific cultural racism directed toward Black girls and women. This case example describes Venus and Serena as having worn multicolored beads in their cornrow braided hair during tennis matches. Spencer asserted that these sisters were identified as "Others" in the professional tennis realm, as their hairstyles were commented on by spectators and sports commentators with perplexity and even disgust (p. 122). Thus, Spencer argued that Black women's physical appearance, which might be considered beautiful within their own community, is often used to marginalize them in the larger culture.

Marginalization also occurs with respect to Black women's perceived speaking styles. Massey and Lundy (2001) investigated housing discrimination based on Black-English vernacular, Black-accented English, and White middle-class English. Using the same audio script and additional profile characteristics (e.g., income, age, and marital status), the researchers used specific race-associated speech patterns to contact rental agents. The investigators found that women speaking Black-English vernacular were (a) less likely to reach a rental agent and (b) they were more likely to be told that a unit was not available for rent, (c) to receive a credit score inquiry, (d) to be informed of fees associated with using rental agent services, and (e) to be quoted a greater deposit fee requirement than any of the other race-gender types of speech, including men speaking Black-English vernacular. Massey and Lundy's study implies that Black women are more likely to be pushed out of housing opportunities and more likely to be scrutinized in the process of obtaining housing based on speech patterns.

Both Spencer (2004) and Massey and Lundy's (2001) observations suggest that cultural attitudes and beliefs toward Black women are often negative and may affect the ways in which Black women are treated. However, as with most studies examining Black women and discrimination, neither study described Black women's reactions to discrimination. Nevertheless, Black women may react negatively to cultural maltreatment, perhaps in ways that are detrimental to their physical and mental health or they may use racial and gender coping strategies to resist demeaning messages about their bodies and physical selves.

**Institutional Discrimination**

*Institutional discrimination* may be defined as social practices and policies that unfairly target and disadvantage Black women more than White people or Black men (Driscoll, et al., 2014). Most of the scholarship in this domain focuses on describing between-group differences in tangible resources. For example, in employment settings, on average, Black women are paid 80 cents to every dollar paid to non-Hispanic White women and 88 cents to every dollar paid to their Black male counterparts (U.S. Census Bureau, 2011) and, in comparison to Black men and White men and women, are more likely to be underemployed, segregated into distinct employment sectors (e.g., cashiers), and locked out of educational opportunities and options for promotion (Berry & Bell, 2012; Buchanan, 2005). However, Berry and Bell (2012) suggest that institutions should focus on the policies and practices that foster unequal and desperate experiences that disadvantage Black women in organizations. In addition, the ways in which these practices affect Black women's health should also be considered.

Although a lack of social and institutional resources may adversely affect women's ability to engage in health-related practices, discouraging interpersonal and institutional relations may limit their desire to do so. Rospenda, Richman, and Shannon (2009) investigated relationships between various forms of discrimination and harassment (i.e., racial, gender, sexual, and general) at work and psychological health (i.e., psychological distress and well-being) in a sample of White, Black, Asian, Latino, and other/mixed-race adult men and women (*N*= 2,151). They found that Black women who strongly endorsed experiences of racial, gender, sexual, and general forms of harassment and discrimination experienced greater stress in comparison to Black women who endorsed less harassment. This greater stress led to increased negative psychological health outcomes such as anxiety, depression, and loss of psychological well-being.

In six focus groups with African American women (*N* =37), Buchanan (2005) also investigated race and gender as inseparable constructs in the women's interpersonal relations at work. She found that Black women reported that they continually experienced racialized sexual harassment described as (a) producing double-standards for Black women's appearance, competence, and mannerisms; (b) promoting an environment where White men and women attempted to shift power back to their White co-workers; and (c) forced Black women to locate White and male allies who could assert their own dominance over the employees who were the harassers, which consequently, kept Black women vulnerable to their allies.

Collectively, Rospenda et al. (2009) and Buchanan's (2005) findings suggest that scholars ought to investigate the effects of institutional discrimination on Black women in

ways that specifically focus on their unique combination of race-gender categories. Given that their racial and gendered social locations placed them at various positions of powerlessness at work and in other institutions, it is important to discover how they cope with the associated stress.

**Interpersonal Discrimination**

For Black women, interpersonal discrimination often occurs in the form of unique racist-sexist stereotypes that systematically marginalize and promote discrimination toward them (Sesko & Biernat, 2010; West, 2012). These stereotypes are so pervasive that they have been classified into distinct taxonomies, Mammy, Jezebel, Sapphire, and Matriarch. The stereotypes are used to categorize Black women as either (a) overweight mothers, healers, nurturers, and caregivers (Mammy); (b) sexually promiscuous, provocative, and morally void (Jezebel); (c) hostile, aggressive, and violent (Sapphire); and/or (d) overly dominant and strong (Matriarch). These distinct classifications make Black women vulnerable to stereotypic expectations that often do not fit their personality or behavior, and virtually all of them demean the quality of the women's functioning in interpersonal roles.

Gilliam's (2007) study suggests that even Black men endorse the Black-women stereotypes in ways that maintain the gender social hierarchy in which boys and men are most valued and girls and women are not. She surveyed a sample of heterosexual Black men ($N$ =221) in order to investigate Black men's perceptions of Black women. The participants were asked to complete a measure that assessed stereotypic beliefs toward Black women. Gillum found that 71% of Black men endorsed the Matriarch stereotype of Black women, whereas 48% endorsed the Jezebel or sexually promiscuous stereotype.

Her results suggest that Black men may endorse multiple negative stereotypes of Black women.

Moreover, Gillum (2002) found that African American men may use stereotypes of Black women as a justification for intimate partner violence. A sample of African American men (*N*= 221) were asked to respond to Likert-type items concerning their perceptions of Black women (e.g., "African American women are too critical") and questions about the circumstances when partner violence was justified (e.g., "is sexually unfaithful") (p. 75). Gillum found that Black men who endorsed Black female stereotypes (e.g., Black women are sexually promiscuous) were more likely to justify violence toward Black women. Gillum's results suggest that Black women may be at physical risk in interpersonal relationships involving Black men, and the level of risk may depend on the men's endorsement of specific stereotypes.

Gilliam's (2002, 2007) two studies suggest that Black women's negative encounters are not limited to outside the home. Black women in relationships with or interacting with Black men potentially must confront conflicting assumptions from them in their interpersonal relationships in the home and in their intimate social spheres. Thus, Black women may need to cope with racial and gender related stress wherever they are.

**Effects of Discrimination on Black Women's Health Behaviors**

Although it is important to understand the external race-gender dynamics that may contribute to Black women's lack of self-nurturing, it is also important to examine their perceptions and reactions to such experiences. Generalizing from biopsychosocial models, it is the internalizing of gendered-racism, in its various forms, rather than the discrimination per se that may have profound negative consequences for Black women's

health-related practices. Some research has examined internalized stereotypes and feelings and eating-related behaviors and attitudes that are especially relevant to the present study, whereas others have examined effects of harassment.

**Stereotypes**

In a sample of African American female trauma survivors ($N = 179$) of physical and sexual assault, natural disasters, and death of a loved one, Harrington, Crowther, and Shipherd (2010) investigated relationships between the women's adherence to the "Strong Black Woman" stereotype and a variety of eating disorder symptoms (e.g., emotional eating, eating in response to trauma, and eating for psychological reasons). They found that ascribing to the stereotype promoted binge eating, emotional eating, and emotional dysregulation. Their results suggest that internalizing stereotypes pertaining to strength may contribute to negative effects on Black women's health practices by limiting their free access to emotions.

Also, Peterson, Wingwood, DiClimente, Harrington, and Davies (2007), in a study of adolescent girls ($N = 522$), found evidence to suggest that endorsing the promiscuous or Jezebel stereotype may affect Black women's unhealthy physical activities. They found that high endorsement of hypersexualized stereotypes in rap videos was related to higher levels of binge drinking, risky sexual activity, and negative body image in the sample. Their findings suggest that Black women may begin internalizing and reacting to negative stereotypes very early in their lives by engaging in health behaviors that devalue their bodies.

**Harassment**

The effects of sexual harassment on women's mental health symptoms and disordered eating attitudes have been investigated to some extent. Buchanan, Bluestein, Nappa, Woods, and Depatie (2013) studied relationships between sexual harassment and eating pathology, body image concerns, and depression in a racially diverse sample of women ($N$ = 1,715) and men ($N$ = 731). Using hierarchical regression analyses, the investigators found that women more not only more likely to experience body image and eating challenges than men generally, but women were also more likely to experience these difficulties when confronted with sexual harassment. Body image variables were operationalized as satisfaction with weight and shape, whereas eating challenges were operationalized by measuring dietary restraint, binge eating, and eating concerns. The authors concluded that "for (women), sexual harassment is omnipresent which furthers one's sense of objectification and the associated negative perceptions of one's body," (p. 358). Though Buchanan et al.'s (2013) study did not examine racial differences in how sex discrimination affects women's body image satisfaction, mental health, and eating behaviors, their study further supports the notion that, for women, the experience of sexism affects various aspects of their health and wellness.

In sum, Harrington et al. (2010), Peterson et al. (2007), and Buchanan et al. (2013) found that perceived discrimination was related to higher levels of negative mental health symptoms and lower levels of positive mental health outcomes for Black women. These three studies suggest that discrimination seems to affect the ways in which Black women are treated, as well as the messages about their race-gender membership that they internalize. Thus, it is plausible that Black women often respond to others' stereotypes, microaggressions, and systemic, cultural, and individual gendered-

racism in ways that do not promote their well-being and may lead to negative health behaviors and outcomes unless they develop effective coping strategies for resisting these stressors.

**Eating and Exercise as Pathways to Better Health for Black Women**

Much research on contributing factors to health has tended to focus on health outcomes (e.g., diabetes), but has not included the ways in which health behaviors affect health outcomes and physical and mental well-being. Biopsychosocial theorists would even argue that there are many biological, psychological, and social benefits to positive eating and exercise behaviors (Clark et al., 1999; Engel, 1980; Kazarian & Evans, 2001). Noticeable benefits of exercise can include increased flexibility, balance, coordination, strength, reaction time, and endurance (CDC, 1999). Exercise reduces the risk of anxiety and depression, generally increases positive mood responses and a sense of vitality and, by improving endocrine system functions, helps people deal with daily life stressors (Paxton et al., 2012; DHHS, 1996). By contrast, not engaging in physical activities may increase the risk of various acute and chronic diseases, such as obesity (Caudwell et al., 2013).

In addition to physical exercise, healthy dietary practices also may be associated with better physical and mental health by influencing mood (e.g., reduction of stress, tension, and depression) and cognition (e.g., increased brain plasticity and cognitive performance) (Gomez-Pinilla, 2008; Penedo & Dahn, 2005). However, there may be a paradoxical benefit to cultural eating practices for African Americans. African American cultural foods are often high in fat, sodium, and calories while being simultaneously low in vegetables and grains (U.S. Department of Health and Human Services, 2000). Foods

high in sugar and fat buffer feelings of stress while improving mood. With increased stress, especially stress from discriminatory experiences, Black women may be more likely to indulge in these cultural "comfort foods" that create a sense of community and emotional vitality (Dallman, et al., 2005, p. 275; James, 2004). Furthermore, some Black women may learn which foods increase positive mood and will use these foods to mitigate negative mood responses and reduce stress. Nevertheless, although Black women might feel an immediate positive emotional response to unhealthy eating, the long term effects of unhealthy eating possibly are negative physical and mental health.

Even though Black women reportedly are less likely to engage in risky health behaviors, such as illicit drug use, tobacco or nicotine use, and heavy alcohol consumption, than White women, Black women are less likely to engage in health promoting behaviors such as aerobic and muscle strengthening activities (National Centers for Health Statistics, 2012). Though avoiding risky behaviors is beneficial for overall health, these physical activities may also be useful for recovering from and preventing negative health outcomes as well as improving overall health (Caudwell et al., 2013; CDC, 1999; DHHS, 1996). To date, few studies have explored the ways in which Black women's discrimination experiences affect their engagement in health practices. However, there is some research indicating that perceived discrimination experiences affect health outcomes (e.g., Pilver et al., 2011) and stress affects health engagement strategies (e.g., Tryon, DeCant, & Laugero, 2013).

**Stress Effects**. Tryon et al. conducted an experiment to determine if stress affected peri-menopausal women's ($N = 41$) food choices. They compared the food consumption of the women in a stress condition (i.e., a speech and arithmetic task) and a

control condition (i.e., watching a nature video) and found that participants in the stress condition were significantly more likely to consume chocolate cake than participants in the control condition. In sum, stress affected food choices in their sample, but it is not clear that the researchers' operational definition of stress generalizes to the type of stress associated with racial/gender discrimination. Even more, the study does not document the race of the women in the study, overlooking the possibility of this process being different for Black women.

**Health Engagement**. Some scholars argue that stress decreases one's appetite (Adam & Epel, 2007). However, research suggesting that stress increases one's appetite is more abundant (Bjorntorp, 2001; Dallman et al., 2005). For some people, the physiological consequence of stress is that their appetite is stimulated, they do not feel satiated, and their fat is retained via cortisol level enhancement. This cycle is often referred to as "stress eating" (Bjorntorp, 2001, p. 79). Accordingly, some Black women may have difficulty feeling physically satisfied after experiencing discrimination. As a result, they may consume more food to reduce their somatic distress. However, if the stress-eating cycle does describe Black women's responses to experienced discrimination, then heavier bodies ought to be a consequence regardless of whether or not they exercise. Nevertheless, there needs to be a specific focus on the actual health practices that Black women use as strategies for reducing the negative effects of discrimination as well as the coping strategies (e.g., racial and gender identity) that might enable them to resist internalizing the racial and gender discrimination directed toward them.

## Racial and Gender Coping Strategies

Given its pervasiveness, it is likely that all Black women experience gendered-racial discrimination, but presumably not all of them develop symptoms of health or mental health distress. Biopsychosocial models would suggest that Black women, who do not have effective coping strategies to manage the levels of discrimination stress that attack their biological, psychological, and social resources, develop poorer health than women with effective strategies (Clark et al., 1999). Without effective coping resources, Black women may lack the cognitive and emotional vitality to engage in healthy practices (Gomez-Pinilla, 2008; Penedo & Dahn, 2005).

Racial identity theory and research have been used to investigate Black people's appraisal and coping strategies with respect to racial discrimination, whereas gender identity theory has been used to address analogous issues with respect to women's experiences of gender discrimination. However, because Black women experience both kinds of discrimination concurrently, it is important to consider how each pertains to their capacity to cope with discrimination stress.

### Racial and Womanist Identity and Health

*Racial identity* and *womanist identity* refer to the psychological interpretations of race- and gender-related events and stimuli, respectively (Carter & Parks, 1996; Helms, 1994; Ossana et al., 1992). They refer to the racial and gender self that interacts with others and is used to interpret messages and experiences. In other words, racial and womanist identity are psychological phenomena that help Black women process racial and gender information, develop attitudes and beliefs about race and gender, and guide

their interactions with their environments. For Black women, these interactions occur in the face of oppression.

Helms (1990; 1995) describes the process of maturing in one's racial and gender identity as a process of gaining more sophistication in how a person thinks and feels about her own racial or gender group membership relative to others' racial or gender groups. This continually shifting process is described as occurring by means of four or five schemas that are general descriptors of a person's racial and gender operating framework: Conformity (or Preencounter), Dissonance (or Post-Encounter), Immersion/Emersion, and Internalization. Black women use various psychological strategies to react to negative environmental messages about their gender, as well as their race. These schemas are not mutually exclusive in that each woman may use each of them to some extent. Descriptions of these schemas are provided in Table 1.

**Conformity (Preencounter)**. A Black woman using the Conformity (Preencounter) racial or womanist identity schema is typically unaware of the racism or sexism she faces and internalizes society's negative messages about her racial and/or gender group. Primary use of Conformity may lead to difficulty in identifying internal emotional states stimulated by gendered-racism.

Dinsmore and Mallinckrodt's (1996) study, which involved African American women ($N$= 45), examined relationships between the women's responses to measures of racial identity and in the ability to identify, differentiate, and describe emotional states. Using a correlation analysis, the investigators found that Black women's Conformity/Preencounter racial identity status was related to difficulty in expressing feelings and developing psychological insight.

Table 1

Descriptions of Racial and Womanist Identity Attitudes Schemas

| *Black Racial Identity Schema Descriptions (Helms, 2003)* | | |
|---|---|---|
| Schema | Description of Status | Sample Item |
| Preencounter | Devaluation of one's own racial group membership and conformity to society's discourse on racial attitudes toward Black people. | *"I believe that being Black is a negative experience"* |
| Post-Encounter | Confusion or ambivalence regarding membership to one's racial group. | *"I have begun to question my beliefs about my racial group"* |
| Immersion | Denigration of White racial norms and a superficial commitment to one's racial group membership. | *"I am increasing my involvement in Black activities because I don't feel comfortable in White environments"* |
| Emersion | Use of one's racial group standards to define racial group membership and commitment to one's racial group membership. | *"I feel an overwhelming attachment to Black people"* |
| Internalization | Internal definition and commitment to one's racial group membership. | *"People, regardless of their race, have strengths and limitations"* |
| *Womanist Identity Schema/Status Descriptions (Helms, 1990)* | | |
| Schema | Description of Status | Sample Item |
| Preencounter | Preference for traditional gender norms and denigration of women and women's traditionally defined norms. | *"I try not to take part in activities that make me appear to be un-lady like"* |
| Encounter | Confusion regarding one's gender group membership. | *"Sometimes I think men are superior and sometimes I think they're inferior to women"* |
| Immersion/Emersion | Rejection or denigration of male group norms and superficial commitment to female gender norms. | *"American society would be better off if it were based on the cultural values of women"* |
| Internalization | Self-definition and internal commitment to one's gender values and attitudes. | *"I think women and men differ from each other in some ways, but neither group is superior"* |

Pieterse and Carter (2010) also found that endorsing Conformity/Preencounter attitudes was related to negative health consequences for Black women. They conducted a canonical correlation analysis of Black American women's (*N*= 90) perceptions of health, health locus of control, perceptions of racism, and racial identity. Their results indicated that Black women with high levels of Conformity/Preencounter values felt less in control of their health and perceived themselves to have poor health. Dinsmore and Mallinckrodt (1996) and Pieterse and Carter's (2010) studies suggest that this schema provides few positive health benefits for Black women and may not be an effective strategy for coping with race-gender discrimination.

**Dissonance (Post-Encounter)**. The second described status, Dissonance (Post-Encounter), is evident in a woman who displays confusion or ambivalence regarding her racial commitments. A woman may use this schema after experiencing a negative racial or gender encounter(s) that disrupts her ability to disregard negative societal messages pertaining to her racial or gender group. In previously cited studies, Dinsmore and Mallinckrodt (1996) found that Dissonance was related to difficulties identifying and differentiating internal emotional states, a finding which may have implications for other physical and mental health outcomes, whereas Pieterse and Carter found that Black women with high Dissonance/Encounter values tended to feel less in control of their health. Both studies suggest that Dissonance/Encounter might not be an effective coping strategy for gendered-racism experiences.

**Immersion/Emersion**. The next status, Immersion/Emersion, describes a person that idealizes her racial or gender group while devaluing or rejecting White or male group

members and their supposed values. In an attempt to positively view one's own racial group, Black women may develop a sense of pride and a devout commitment to their own idealized cultural standard and racial or gender experiences. Although this person appears to make a positive commitment to her race or gender, this commitment is often superficial and inauthentic. This schema often is associated with feeling more stressed from individual, institutional, and cultural racism for Black women (Franklin-Jackson & Carter, 2007; Jones, Cross, & DeFour, 2007).

Dinsmore and Mallinckrodt's (1996) study suggests that Black women relying on the Immersion/Emersion schema to process their discrimination experiences may tend to spend a lot of energy thinking about how others view their racial group (i.e., high external thinking orientation). Such women might constantly fight externally imposed stereotypic self-definitions that conflict with internal self-definitions. They tend to feel less in control of their health in addition to feeling as if other people control their health (Pieterse & Carter, 2010).

Watt (2006) conducted one of the few studies that examined gender identity and health in a sample of African American women (*N*=111). Using self-report measures, Watt assessed the relationship between racial identity attitudes, womanist identity attitudes, and self-esteem in the sample. She conducted a series of correlations and found that high endorsement of Preencounter, Encounter, and Immersion/Emersion womanist identity statuses were related to lower self-esteem in the sample. Though there is a lack of literature that explores the relationship between gender identity and health, the research that does exist suggests that positive mental health is best obtained when African

American women can reject conformity to traditional gendered and racial messages that devalue their racial and gendered status (Buckley & Carter, 2005).

**Internalization**. Lastly, a woman using the Internalization schema to cope with discrimination displays an authentic commitment to her racial or gender group while also appreciating racial diversity and male cultural values of others. She has developed a personal meaning of what it means to be a Black woman. Black women using this racial or gender identity schema primarily may tend to have a healthy ability to identify, differentiate, and voice their internal emotional states (Dinsmore & Mallinckrodt, 1996) and they may experience higher levels of psychological well-being and lower levels of psychological distress, in addition to feeling in control of their health (Franklin-Jackson & Carter, 2007; Pieterse & Carter, 2010). In addition, more sophisticated gender identity seems to contribute to lower levels of depression, body shame, and unhealthy attitudes toward eating (Hurt et al., 2007; Ossana et al., 1992). Thus, it seems that the Internalization schema may provide many health benefits for Black women by helping them to cope effectively with racism and sexism, although much of the supportive evidence has not focused on Black women specifically.

**Summary**

The biopsychosocial model implies that effective coping strategies may contribute to healthy eating and exercise practices in this case. The racial and gender identity theories and research suggest some coping processes that may be ineffective for managing stress (e.g., Conformity) as well as some that should be especially effective (e.g., Internalization). However, research is needed to determine the extent to which they differentially buffer the effects of gendered-racism.

## Statement of the Problem

Research has consistently concluded that Black women are negatively and disproportionately affected by major health conditions related to body weight such as high rates of obesity, cardiovascular disease, hypertension, infertility, and Type 2 diabetes (Jung, 1997; National Centers for Health Statistics, 2012). However, no theoretical framework currently exists for explaining how race-gender discrimination potentially serves as a barrier to engaging in healthy weight reducing strategies such as healthy eating styles, physical activity, and/or coping with discrimination (Kumanyika et al., 1993; Paxton et al., 2012). Moreover, most studies have used averaged responses of Black women and have been generalized to the population as a whole. Yet there must be some Black women who are resisting gendered racism and engaging in healthy life practices. A conceptual framework is needed that allows for the possibility of such women.

Biopsychosocial theory potentially offers a framework for integrating Black women's experiences of racial/gender discrimination, but needs to be modified to reflect these women's experiences specifically. Black women have experienced the long-standing social and cultural implications of living in a world that devalues and marginalizes them, particularly with respect to their physical appearance and bodies (Bell, 1990; Kumanyika, 2005; Kumanyika, et al., 2007. Constant devaluation may provide undue stress, a biological process. Biological processes resulting from stress could adversely affect Black women's psychological resources, especially their capacity to manage stress without doing harm to themselves.

However, awareness of gender and racial stress may also encourage Black women to engage in various psychological strategies to buffer the potentially deleterious effects of gendered racism on their health. In particular, racial and gender identity may provide psychosocial coping responses that could potentially buffer the effects of stress on Black women's engagement in healthy practices that affect their weight. It is the cycle of perceiving gendered-racism and coping with it effectively or ineffectively that potentially affects their health behaviors and practices (Clark et al., 1999).

**Engagement in Health Behaviors**

In the current study, health behaviors were conceptualized as eating and physical activity engagement. Most studies of Black women have examined physiological results of unhealthy practices, such as obesity, without using a theory based in psychological principles to explain the women's behaviors. For example, limited research has indicated that the experience of chronic stress, a physiological response, is a major factor in Black women's rates of obesity, and that Black women experience more chronic stress than White women (Tomiyama, Puterman, Epel, Rehkopf, & Laraia, 2012). However, to date, no research has implicated the unique psychological factors that govern health engagement in Black women in response to their gendered-racist encounters.

Consequently, given that gendered racism is often not a factor considered in health-related research, vital components of the behavioral processes that might lead some Black women to become overweight or obese potentially have been overlooked. Without knowledge of how Black women behave in response to gender-race discrimination, it is not possible to influence their behavior. In the present study,

engagement in health behaviors was operationally defined as physical activity engagement and restrained-, uncontrolled-, and emotional eating.

In the current study, health behaviors were operationally defined as level of physical activity and types of eating practices. The International Physical Activity Questionnaire-Short (IPAQ-S; IPAQ Group, 2002) was used to assess exercise behavior and the Three-Factor Eating Questionnaire-Revised (TFEQ-R; Karlsson, Persson, Sjostrom, & Sullivan, 2000) was used to assess eating practices. The IPAQ-S measures the amount of energy a person expends through physical activity during their daily activities and the TFEQ-R assesses the person's ability to control one's eating behaviors.

**Black Women's Experiences with Discrimination**

In biopsychosocial theory, discrimination functions as a catalyst for the stress that results in negative health outcomes (Clark, et al., 1999). However, there has been little research, to date, that has examined gender and racial discrimination's effects on Black women's health engagement strategies. Studies have found that stress affects food choices and engagement in physical activity (Bjorntorp, 2000; Dallman et al., 2005; Moore-Green et al., 2012; Tryon et al., 2013). For example, Moore-Green et al. found that stress decreased physical activity engagement for African American women. A small amount of research has examined the ways in which racism affects health outcomes such as cardiovascular health in African American men and women (e.g., Guyll, et al., 2003; Williams, Neighbors, & Jackson, 2003). Virtually no research (e.g., Moradi & Subich, 2002) has focused on sexism and racism's roles in affecting Black women's health outcomes.

Nevertheless, racism and sexism have been identified as critical features of Black women's lived experiences (Brown, 2003). These forms of discrimination are thought to be a unique source of stress that affects Black women's very sense of who they are in the world. This stress allegedly leads to greater physical and mental health distress than other forms of stress (e.g., work and relationship stress). Therefore, strategies that target discriminatory experiences or interpretations of discrimination may help Black women engage in positive health practices and, eventually, promote positive health outcomes.

Gendered-racism was operationalized using a modified Schedule of Racist Events (SRE; Landrine & Klonoff, 1996), a measure that assesses various experiences of interpersonal, cultural, and institutional racism. The instrument was modified to reflect the intersection of racism and sexism in item responses. Also, though theorists contend that Black women experience interpersonal, cultural, and institutional discrimination over the course of their lifespan, neither the modified SRE scale nor the original scale directly operationalized these multiple forms of gendered racism as separate constructs. Rather, the measure's items are reflective of these different forms of discrimination in combination.

**Racial and Womanist Identity as Mediating Variables**

The effects of biological (e.g., stress) and social (e.g., discrimination) processes on health outcomes has been well documented. The meaning and coping responses of these biological and social processes is greatly neglected. It may be that the meaning and management of these biological and social reactions affect their health behaviors. A greater focus on racial and gendered coping responses may prove useful in developing a

comprehensive and culturally congruent reaction from health communities in supporting Black women.

Research suggests that Black women internalize their racial and gender status and develop schemas that allow them to react to and potentially analyze racial and gender experiences (Carter & Parks, 1996; Helms, 1995; Ossana et al., 1992). Therefore, the meaning Black women attach to their racial and gender marginalizing experiences may affect the ways in which they internally and externally react to discrimination, including their capacity to make healthy food and physical activity decisions.

The current study examined racial and gender identity as coping strategies that could potentially aid Black women's resistance to discrimination stress. Researchers have found that Black women with healthy racial or gender identities have better mental health outcomes (e.g., Franklin-Jackson & Carter, 2007; Jones, Cross, & DeFour, 2007; Pillay, 2005; Pyant & Yanico, 1991; Watt, 2006). Therefore, it may be possible that Black women with healthy racial-gender identities have better physical health behaviors and outcomes as well. However, research has not explored the ways in which these two types of psychological variables differentially affect Black women's health engagement strategies. This study explored racial and womanist identity, as mediating variables, of the relationship between gendered-racism and health behaviors (i.e., eating and exercise practices). Figure 1 illustrates the hypothesized relationships.

The psychological coping strategies in the proposed study were racial and gender identity. To operationalize gender identity attitudes, the Womanist Identity Attitudes Scale (WIAS; Ossana, Helms, & Leonard, 1990), which examines women's internal sense of their womanhood, was used. Racial identity attitudes were operationalized by

using the Black Racial Identity Attitudes Scale-Revised (BRIAS-R, Helms, 2003), which measures racial identity schemas for Black people. The BRIAS-R measured five racial identity schemas and the WIAS measured four gender identity schemas as described in Table 1.

## Proposed Model and Hypotheses

In the model, gendered racism (Figure 1), defined as Black women's self-reported life-long experiences of pervasive gendered racism and related stress, was expected to be related to high levels of unhealthy practices (i.e., Emotional Eating and Uncontrolled Eating) and low levels of healthy practices (i.e., Cognitive Restraint and Physical Activity). In other words, Black women's engagement in surviving stress from gendered racism, may lead them to self-nurture through unhealthy (emotional and uncontrolled eating), possibly culturally consistent, eating and exercise behaviors and prevent them from engaging in healthier, perhaps not culturally consistent, practices (i.e., physical activity and cognitive restraint). However, effective gender and/or racial identity schemas may lessen the negative effects of gendered racism and stress on health behaviors. The proposed study used a mediation model rather than a moderation model. Given evidence of the proposed relationships from previous studies and that the purpose of the current study was to aid in explaining presumed relationships between Gendered Racism and health behaviors, a mediation model was considered most appropriate for the study design (Baron & Kenny, 1986).

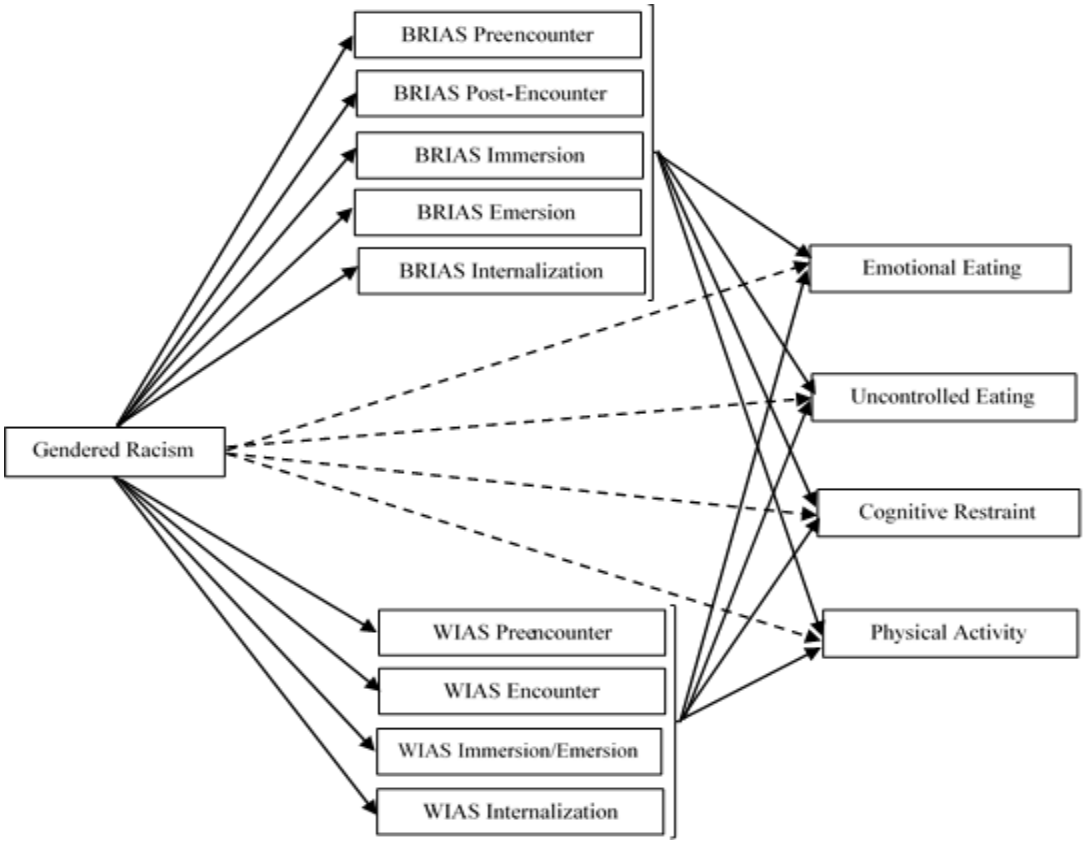


*Figure 1*: Conceptual Model

## Hypotheses and Research Questions

**Hypothesis 1. Gendered racism will be related to lower levels of physical activity and Cognitive Restraint and higher levels of Emotional Eating and Uncontrolled Eating.**

Support for this hypothesis was drawn from literature focusing on the relationship between (a) discrimination and health outcomes and (b) stress and health behaviors. For example, Moore-Green, Gross, Silver, and Perrino (2012) found that chronic stress was related to lower physical activity levels for Black girls and women. Therefore, I proposed that higher levels of gendered racism would be related to lower levels of healthy practices and higher levels of unhealthy practices because it seems plausible that

women's eating behaviors and/or exercise activities influence their weight and other health outcomes (Caudwell et al., 2013; Gomez-Pinilla, 2008).

Gendered racism was measured using total scores on the modified Schedule of Racist Events (Landrine & Klonoff, 1996). Health practices were measured using total scores from the International Physical Activity Questionnaire-Short (IPAQ-S; IPAQ Group, 2002) and the three scales from the Three-Factor Eating Questionnaire-Revised (TFEQ-R; Karlsson et al., 2000), which included Cognitive Restraint, Emotional Eating, and Uncontrolled Eating.

**Hypothesis 2: The relationships between Gendered Racism and health behaviors will be mediated by racial identity attitudes. Specifically, the relationship between gendered racism and eating and exercise practices will no longer be significant when racial identity is entered into the model as predictor variables.**

Health-related literature has consistently suggested that having attitudes associated with a sophisticated racial identity status promotes positive mental and physical health outcomes and decreases negative mental and physical health symptoms and outcomes in Black women. In contrast, less sophisticated racial identity statuses have been related to negative mental and physical health outcomes. For example, Pyant and Yanico (1991) found that less sophisticated racial identity schemas (i.e., Preencounter and Encounter) were positively related to depression and negatively related to well-being and self-esteem in a sample of Black women. Therefore, it is plausible that racial identity might mediate the relationship between experiences of gendered racism and health behaviors. Racial identity was measured using the Black Racial Identity Attitudes Scale-Revised (BRIAS-R, Helms, 2003).

**Hypothesis 3. The relationships between Gendered Racism and health behaviors will be mediated by womanist identity attitudes. Specifically, the relationship between gendered racism and eating and exercise practices will no longer be significant when gender identity is entered into the model as predictor variables.**

Hypothesis 3 is supported by a small body of literature that has examined womanist identity in relation to Black women's health (Watt, 2006). This literature suggests that when Black women endorse a sophisticated womanist identity attitude (i.e., Internalization), they are more likely to have positive mental health and decreased negative mental health symptoms in comparison to women with less sophisticated womanist identity attitudes (i.e., Preencounter, Encounter, and Immersion/Emersion). However, although few studies have examined womanist identity's mediating effects on Black women's health, one can infer from the existing literature that endorsing the Internalization schema promotes positive mental health outcomes while Preencounter, Encounter, and Immersion/Emersion have negative effects on Black women's health practices. Gender identity was measured using the Womanist Identity Attitudes Scale (WIAS; Helms, 1990).

**Research Question:**

In addition to the hypotheses used to test the proposed gendered-racism biopsychosocial model, the following research question was investigated:

**How are body weight and satisfaction related to eating and exercise practices of Black women?**

Socio-cultural factors may lead Black women to engage in healthier practices with less frequency than their White female counterparts (Befort, et al., 2008). In comparison to White women, Black women have tended to be more satisfied with their weight and more likely to have considered larger body sizes normal and healthy (Befort et al., 2008; Chandler-Laney et al., 2009). As such, perceptions of weight and satisfaction with one's weight might affect health-related choices for Black women. Therefore, additional analyses were conducted to examine (a) body weight and (b) satisfaction with one's weight as factors affecting health behaviors. These analyses use responses from self-reported weight and height and one item measuring weight satisfaction.

Chapter 3

# Methods

## Participants

Participants in the study identified as Black/African American or multiracial, and were at least second generation in the US. All participants ($N$ = 153), who met the age, race, and generation criteria for the study and completed the survey, were used in the study. Participants' ages ranged from 18 to 65 years ($M$ = 38.42, $SD$= 13.39) and represented various educational and income levels (Table 2). The majority of participants self-identified as middle income (54.91%) and graduated from a college or university (31.37%). Participants were also likely to report being overweight (50.98%) and mostly were dissatisfied with their weight (44.44%). Six participants in the study reported being pregnant or breastfeeding.

## Measures

This study included (a) a demographic measure, (b) the modified Schedule of Racist Events (Landrine & Klonoff, 1996), (c) the Womanist Identity Attitudes Scale (WIAS; Helms, 1990), (d) the original version of the Black Racial Identity Attitudes Scale-Revised (BRIAS-R; Helms, 2003), (e) the International Physical Activity Questionnaire-Short (IPAQ-S; IPAQ Group, 2002), and (f) the Three-Factor Eating Questionnaire-Revised (TFEQ-R; Karlsson, Persson, Sjostrom, & Sullivan, 2000) (Appendix A).

Table 2

Characteristics of Participants (*N*=153)

| Category | Frequency | % |
|---|---|---|
| Age | | |
| 18-25 | 22 | 14.38 |
| 26-35 | 63 | 41.18 |
| 36-45 | 21 | 13.73 |
| 46-55 | 22 | 14.38 |
| 56-65 | 25 | 16.34 |
| Race | | |
| Black/African American | 139 | 90.85 |
| Multiracial | 14 | 9.15 |
| Income | | |
| Low income | 38 | 24.84 |
| Middle income | 84 | 54.91 |
| Upper middle income | 25 | 16.34 |
| Upper income | 6 | 3.92 |
| Education Level | | |
| Less than high school | 2 | 1.31 |
| High school diploma or Equivalent | 7 | 4.58 |
| Some college/AA degree or Equivalent | 37 | 24.18 |
| Bachelor degree | 48 | 31.37 |
| Master's degree or Equivalent | 41 | 26.80 |
| Doctoral degree | 18 | 11.76 |
| Physical Activity Level | | |
| Low Physical Activity | 61 | 39.87 |
| Moderate Physical Activity | 39 | 25.49 |
| Vigorous Physical Activity | 53 | 34.64 |
| Weight category (according to BMI) | | |
| Underweight | 3 | 1.96 |
| Normal/Healthy weight | 34 | 22.22 |
| Overweight | 60 | 39.22 |
| Obese | 56 | 36.60 |
| Weight category (self-report) | | |
| Underweight | 4 | 2.61 |
| Normal weight | 56 | 36.60 |
| Overweight | 78 | 50.98 |
| Obese | 15 | 9.80 |
| Satisfaction with weight | | |
| Very Satisfied | 12 | 7.84 |
| Mostly Satisfied | 47 | 30.72 |
| Neither Satisfied nor Dissatisfied | 26 | 16.99 |
| Mostly Dissatisfied | 54 | 35.29 |
| Very Dissatisfied | 14 | 9.15 |

**Demographic Questionnaire.** I designed a questionnaire to collect information on participants' background. This form included questions about participants' demographic characteristics (e.g., age, race, ethnicity, socioeconomic status), and physical characteristics (e.g., height, weight, and weight satisfaction) (Appendix A). These data were used to (a) determine whether participants met inclusion criteria, (b) describe the participants' demographic backgrounds, and/or (c) for exploratory analyses.

**Gendered Racism.** Gendered racism was assessed using a modified Schedule of Racist Events (SRE; Landrine & Klonoff, 1996). The SRE is a self-report measure intended to assess African Americans' experiences with racial discrimination in various domains (e.g., institutions and interpersonal relationships). In the original measure, respondents were asked to indicate the extent to which they have felt discriminated against because of their race (e.g. "How many times have you been treated unfairly by your employers, bosses and supervisors because you are Black?"). In the current study, I modified two of the three original SRE subscales, Lifetime Racism and Appraisal of Racism, to reflect the unique intersection of racism and sexism for Black women.

Lifetime gendered racism assessed the women's reported frequency of experiencing gendered-racism (e.g., How many times in your entire life have you been treated unfairly by neighbors because you are a Black woman?"); Appraisal assessed the level of stress associated with the event (e.g., "How stressful was this for you?"). Participants were asked to use a six-point scale, ranging from 1 ("Never") to 6 ("Almost all of the time") to reflect lifetime events of gendered racism (16 items). Participants were asked to use a six point scale ranging from 1 ("Not at all") to 6 ("Extremely") to reflect their appraisal of stress experienced from these events. The modification of the

scale's language from "because you are Black" to "because you are a Black woman" was intended to better reflect the intersection of race and gender for Black women.

The SRE was scored by summing the numbers that reflect the frequency and appraisal of gendered racism, respectively. Scores on each subscale ranged from 16 to 96. Higher scores on the Lifetime scale indicated higher frequency of experiencing gendered racism. Higher scores on the Appraisal scale indicated higher levels of stress that the participant felt from gendered racism. Landrine and Klonoff (1996) found good internal consistency (Cronbach alpha) reliability estimates for the Lifetime ($\alpha = .95$) and Appraisal ($\alpha = .94$) scales. The current study yielded good Cronbach alpha reliability coefficients for the Lifetime ($\alpha = .92$) and Appraisal (($\alpha = .95$) scale responses. Considering the high correlation ($r = .80$, $p < .001$) between the Lifetime and Appraisal scales, in the current study, I combined the Lifetime and Appraisal subscales to create a Gendered Racism scale. The Cronbach alpha coefficient for scores on this combined scale was .95, which indicated good internal consistency among item responses.

Research using the SRE has found that scores on the SRE were significantly related to scores measuring physical and psychological health outcomes and behaviors in Black women (Kwate et al., 2003; Landrine & Klonoff, 1996; Moradi & Subich, 2003). For example, Kwate et al. found that higher scores on Lifetime racism were related to perceptions of poor physical health, histories of disease, and recent common colds in a sample of Black women. Kwate et al. also found that Lifetime racism and Appraisal of racism were related to psychological distress. In sum, research has found the SRE to yield significant results when used with samples of Black women, suggesting that the SRE was an appropriate instrument for the current study.

**Racial Identity.** Racial identity as a coping strategy was assessed using the Black Racial Identity Attitudes Scale-Revised (BRIAS-R; Helms, 2003). The BRIAS-R is a 60-item self-report measure of five racial identity schemas that reflect the mechanisms Black people use to process and cope with racial stimuli. The schemas are Preencounter (17 items), Post-Encounter (eight items), Immersion (14 items), Emersion (eight items), and Internalization (13 items). A description of the five schemas and sample items is provided in Table 1.

Participants used five-point Likert-type scales, ranging from 1 ("strongly disagree") to 5 ("strongly agree"), to indicate the extent to which items described them. High scores indicated strong use of the relevant schemas for processing racial information. Helms and Parham (1985) reported moderate Cronbach alpha reliability estimates for scores on the Preencounter (α= .67), Encounter (α= .72), Immersion/Emersion (α= .66), and Internalization (α= .71) subscales in a combined sample of Black women and men. In a sample of male and female African American college students, Pillay (2005) found low to moderate Cronbach alpha internal consistency coefficients for scores on the Preencounter (α= .73), Encounter (α= .42), Immersion/Emersion (α= .62), and Internalization (α= .67) racial identity scales. The responses from the participants in the current study yielded moderate to high Cronbach alpha internal consistency coefficients for scores on the Preencounter (α= .81), Post-Encounter (α= .79), Immersion (α=.80), Emersion (α= .72), and Internalization (α= .68) subscales.

Though there is a dearth of research examining racial identity using the RIAS and health outcomes and behaviors, versions of the BRIAS have been used to predict many

mental health outcomes (e.g., well-being, depression, and self-esteem) of Black women and may be related to their psychosocial competence (Carter, DeSole, Sicalides, Glass, & Tyler, 1997; Pyant & Yanico, 1991). Pillay (2005) found that the RIAS-B subscales were differentially related to psychological well-being and distress in a sample of African American male and female college students. For example, high endorsements of Preencounter and Encounter subscales were related to higher levels of psychological distress in the sample.

**Gender Identity.** Gender identity as a coping strategy was assessed using the Womanist Identity Attitudes Scale (WIAS; Helms, 1990). The WIAS is a self-report measure used to assess women's attitudes about female norms. This 55-item scale consists of four subscales measuring four womanist identity schemas. The schemas are Preencounter (21 items), Encounter (eight items), Immersion/Emersion (16 items), and Internalization (11 items). Descriptions of the schemas are provided in Table 1.

Items were responded to via a five-point Likert-type scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). Responses on each subscale item were summed to reflect the degree to which a woman uses each gender schema. Boisnier (2003) reported low to moderate internal Cronbach coefficient alphas for scores on the Preencounter ($\alpha$= .54), Encounter ($\alpha$= .26), Immersion/Emersion ($\alpha$= .60), and Internalization ($\alpha$= .38) scales in a sample of Black and White women. Watt (2006) reported moderate Cronbach alpha reliability estimates for scores on the Preencounter ($\alpha$= .55), Encounter ($\alpha$= .43), Immersion/Emersion ($\alpha$= .82), and Internalization ($\alpha$= .77) scales in a sample of African American college women. Poindexter-Cameron and Robinson (1997) further yielded moderate coefficient alphas for the Preencounter ($\alpha$=

.55) and Encounter (α= .43) subscales and high internal consistency for the Immersion/Emersion (α= .82) and Internalization (α= .77) subscales.

The current study yielded moderate Cronbach alpha internal consistency for scores on the Preencounter (α= .55) and Encounter (α= .43) scales and high internal consistency for scores on the Immersion/Emersion (α= .82) and Internalization (α= .77) scales. Similar to racial identity, there is a dearth of research that has examined womanist identity attitudes in relation to health outcomes and behaviors. However, both Boisnier (2003) and Watt (2006) found that endorsing Preencounter, Encounter, and Immersion/Emersion schemas were related to lower self-esteem in Black and White college women and African American college women, respectively.

**Physical Activity.** In the current study, Physical Activity was assessed using the International Physical Activity Questionnaire-Short (IPAQ-S; IPAQ Group, 2002). The IPAQ-S was designed to assess leisure, work, domestic, and transportation-related activities that involve physical movement. It is a seven-item self-administered measure of reported physical activities performed in the last seven days for at least 10 minutes (e.g., "During the last 7 days, on how many days did you do vigorous physical activities like heavy lifting, digging, aerobics, or fast bicycling?" and "How much time did you usually spend doing vigorous physical activities on one of those days?").

The original scale asked participants to provide the number of days and the amount of time they spent engaging in low, moderate, and vigorous physical activity in the last seven days. I conducted a preliminary assessment of the open-ended format of the scale and determined that the open-ended format led to too much variation in responses. For example, one participant stated that she engaged in "Low" activity for "1

hour per day" and "sixty minutes". Another participant stated that she engaged in "Low" activity for "1-2 hours." Based on the variability in responses, the scale was modified to provide structured options for participants. Participants were asked to select the number of days (0-7) and the time they spent engaging in low, moderate, and vigorous activities in 15 minute increments, from "no time" to "two or more hours".

In the current study, the measure developers' scoring guidelines were used to generate a physical activity score for each participant. Accordingly, the levels of activity intensity were assigned metabolic equivalent (MET) energy expenditure scores: low (3.3), moderate (4.0), and vigorous (8.0) activity levels. The MET involved calculating the levels of energy required for each activity. A higher level of activity intensity suggested that more energy was expended by the participant. Duration and frequency of physical activity energy expenditures for each physical activity were summed to develop total scores for physical activity.

Scores on the IPAQ-S were used as a continuous score in this study. However, to reflect the varying levels of physical activity engagement by participants in the study, the scores were also transformed into categories in order to gauge activity levels of participants (Table 2). These categories were used to obtain a pragmatic understanding of physical activity engagement of the current sample and were not used in any analyses. Based on the prescribed physical-activity- score- range guidelines provided by the measure developers, moderate engagement in physical activity can be described as either (a) three or more days of vigorous activity for at least 20 minutes per day or (b) five or more days of moderate or walking activity for at least 30 minutes per day. Low activity participation described individuals engaging in physical activities for a shorter duration,

less frequency, and/or lower intensity than moderate engagement. High (i.e., vigorous) activity participation was used to describe individuals engaging in physical activities for a longer duration, more frequency, and/or higher intensity than moderate activity engagement.

The IPAQ-S was designed and evaluated on populations in 12 countries; populations' ages ranged from15-69 years, and the measure has been shown to be moderately correlated with data obtained from activity monitors (i.e., accelerometers) (IPAQ Group, 2002; Wolin, Heil, Askew, Matthews, & Bennett, 2008). Activity monitors such as accelerometers track physical movement and the intensity of these actions. Wolin et al. found a positive relationship between measured physical activity (i.e., accelerometer scores) and reported physical activity on the IPAQ-S for Black women. Their results suggest that the IPAQ-S yielded valid scores for Black women's physical activity and would thus be appropriate for use with the sample in the current study.

**Eating Practices.** In the current study, the Three-Factor Eating Questionnaire-Revised was used to measure eating practices (TFEQ-R; Karlsson, et al., 2000). The TFEQ-R is an 18-item self-administered measure designed to assess three areas of eating behaviors: (a) Cognitive Restraint (six items) assesses an individual's ability to consciously restrict food to maintain weight or promote weight loss (e.g., "I consciously hold back at meals in order not to weight gain"); (b) Uncontrolled Eating (nine items) measures an individual's tendency to eat more than he or she would normally eat due to loss of control, including subjective feelings of hunger (e.g., "Sometimes when I start eating, I just can't seem to stop"); and (c) Emotional Eating (three items) assesses an

individual's ability to resist emotional eating cues (e.g., "When I feel anxious, I find myself eating"). Respondents indicated their agreement with items on four-point rating scales ranging from 1 ("definitely false") to 4 ("definitely true"). Items in each scale were summed to create a raw score. The raw scores were then transformed to a 0 to 100 scale; [((raw score-lowest possible raw score)/possible raw score range) x 100]. Higher scores on a scale indicated greater levels of cognitive restraint, uncontrolled eating, and/or emotional eating.

The three scales of the TFEQ-R suggest that adults engage in differential eating behaviors, implying differing levels of healthful diets. For example, women scoring high on the Cognitive Restraint scale were reported to have diets lower in fat diets and were more likely to eat green vegetables in comparison to participants with lower scores on the Cognitive Restraint scale (de Lauzon et al., 2004). Women who scored high on the Emotional Eating scale were more likely to consume snacks such as cakes and pastries in comparison to women with lower scores on Emotional Eating. In addition, women who scored higher on the Uncontrolled Eating scale were more likely to consume higher levels of sweetened beverages and alcohol in comparison to women who had lower scores on the Uncontrolled Eating scale. Also, the TFEQ-R has been demonstrated to differentiate eating behaviors in adults with weights classified as obese and non-obese. Thus, the TFEQ-R seemed an appropriate measure for assessing eating behaviors in the current sample and represents both healthful and not healthful eating practices.

For their initial development of the TFEQ-R, Karlsson et al., (2000) reported moderate to good reliability Cronbach alpha reliability for scores on the Cognitive Restraint ($\alpha$= .77), Uncontrolled Eating ($\alpha$ = .83), and Emotional Eating ($\alpha$ = .85) scales

in a sample of adult men and women in Sweden. No published studies have reported reliability data for a sample of Black women. However, some studies (e.g., Chandler-Laney et al., 2009) have found significant results when using this measure to assess women in the US. For example, Chandler-Laney et al. examined the relationship between body dissatisfaction and dietary control and found that African American women and European American women engaged in similar levels of emotional eating and dietary restraint. Cronbach alpha internal consistency coefficients in the current study were as follows: Cognitive Restraint ($\alpha = .73$), Uncontrolled Eating ($\alpha = .66$), and Emotional Eating ($\alpha = .74$).

**Body Mass Index.** The body mass index (BMI) is a weight to height ratio that is often used as a weight-classification tool for investigating weight-related health concerns (Flegal et al., 2012). In the current study, participants self-reported their weight and height, which were used to compute participants' BMI index using the following equation: weight (lb) / [height (in)]$^2$ x 703 (Garrow & Webster, 1984).

**Procedures**

The current study was approved by the Boston College Institutional Review Board (IRB) before participants were recruited. Participants were recruited from several locations including churches, community groups, and via social media websites. Fliers were posted on social media websites and I sought approval from church groups and community groups to recruit participants. Participants completed the survey via online (Qualtrics) ($n = 124$) and paper surveys ($n = 29$). Paper surveys were provided to participants individually with a pre-stamped return envelope. Participants who completed the paper survey were provided a copy of the consent form. Participants who

completed the survey online were encouraged to print a copy of the consent form for their records. The consent forms included the investigator's name and contact information in the event that the participant wanted to know the results of the study or had follow-up questions about their participation.

As an incentive for participating, participants were offered the opportunity to participate in a raffle to potentially receive one of four $25 gift certificates. Upon reaching the end of the survey, if they wanted to participate in the raffle, participants could provide their e-mail address or telephone number in a second separate survey, so that their contact information would not be connected to their survey responses.

# Chapter 4

## Results

### Data Preparation

To prepare the data for analyses pertaining to the hypotheses, I checked the participants' responses for missing items and verified that the dataset met the assumptions for interpretation of multivariate analyses. The assumptions were that (a) the data were normally distributed, (b) the variance was homoscedastic (i.e., the variance was essentially equivalent at each level of the variables used in the analyses), and (c) the variables were linearly related.

**Missing Data.** A total of 197 participants responded to the survey. Three participants were removed from the dataset for not meeting age (ages 18 to 65) and generation (at least second generation in US) requirements. For the purpose of the present study, cases with more than 30% of missing item responses ($n$ = 22) were deleted from the dataset. Most of these missing responses occurred in the second half of the survey. These omitted respondents did not provide responses to items measuring racial identity and gender identity, which were located at the end of the survey. Missing values in the remainder of the dataset were then examined for systematic patterns of missing data. Nineteen participants (11%) did not complete the Gendered Racism Appraisal scale. Therefore, 153 surveys were completed by participants who met the requirements of the study.

Missing data on the Gendered Racism Appraisal scale mostly occurred for the online surveys rather than the paper surveys. Perhaps participants completing the online survey responded to Gendered Racism Appraisal items with less frequency than

participants completing paper surveys due to formatting differences. The format of the online survey asked participants to respond to Gendered Racism Appraisal items that were located parallel to their corresponding Gendered Racism Lifetime items, whereas the paper survey asked participants to respond to the Gendered Racism Appraisal items that were located below their corresponding Gendered Racism Lifetime items.

A series of one-way ANOVAs were conducted to compare responses on the outcome variable measures for participants who responded to Gendered Racism Appraisal measure in comparison to participants who did not respond to Gendered Racism Appraisal measure. There were no significant differences found between these groups in relation to the outcome variables in the study. The participants who did not provide responses were deleted from the dataset. There were no other systematic missing values in the dataset. For other sporadic missing values on measures in the study, participant mean substitution was used. That is, based on the individual participant's response on a scale, her average score was used as a substitute for the missing value.

Demographic characteristics of participants who completed the survey were compared to participants who did not complete the online survey. Participants who completed the online survey were more likely to report having a higher level of completed education, $F(1, 151) = 12.85$, $p < .01$; higher incomes, $F(1, 151) = 5.96$, $p < .05$; and were younger in age, $F(1, 151) = 7.67$, $p < .01$, in comparison to participants who completed paper surveys.

**Check of Assumptions**

**Variable Distributions**. Simple boxplots were used to identify outliers for each scale. Outliers were winsorized (i.e., moved closer to the next highest or lowest value in

the scale depending on their position in the distribution of scores). Analyses of skewness and kurtosis were conducted on the measures in the study. Given that most values were within the generally acceptable range of -3 and +3, most variables were suitable for analyses without transforming them.

Variables that did not fall within the recommended skewness range (i.e., IPAQ-S, BRIAS Preencounter, BRIAS Post-Encounter, and BRIAS Internalization) were examined for homoscedasticity and linearity using bivariate scatterplots. The scatterplots revealed that, in relation to Gendered Racism, responses on IPAQ-S, BRIAS Preencounter, BRIAS Post-Encounter, and BRIAS Internalization scales violated the assumption of homoscedasticity.

The recommended strategy to restore homoscedasticity is to transform the participants' scores using one of various transformation techniques (e.g., logarithm) (Erceg-Hurn & Mirosevich, 2008; Tabachnik & Fidell, 2007). Transformations present additional limitations and consequences (e.g., difficulties in interpretation and reduced power). Transformations were not conducted in this study to maintain the validity of the instruments used, and thereby preserve the comparability of the results of this study to studies using the same measures. Lastly, based on generated scatterplots, all relationships between the predictor variables and outcome variables appeared linear, which suggested that the assumption of linearity had been met.

**Preliminary Analyses**

To determine whether demographic characteristics (i.e., age, BMI, income, and education) should be included in the analyses as predictors of the outcome variables, I used Pearson correlation analyses to examine relationships pertaining to continuous

variables (Table 3). There were significant negative relationships between age and Uncontrolled Eating ($r$ = -.19, $p$ < .05) and BMI and Emotional Eating ($r$= -.29, $p$ <.01). There were significant positive relationships between BMI and Uncontrolled Eating ($r$= .23, $p$ < .01) and income and Cognitive Restraint ($r$= .20, $p$ < .05). Considering the small effect sizes of these relationships, I did not control for these demographic variables in the analyses of the hypotheses. My criterion for inclusion of these variables in the analyses was at least a moderate effect size of .30 (Cohen, 1992).

Table 3

Correlations Among Variables ($N = 153$)

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Age | | | | | | | | | | | | | | | | | | |
| 2 | BMI | .15 | | | | | | | | | | | | | | | | | |
| 3 | Weight Satisfaction | -.18* | -.51** | | | | | | | | | | | | | | | | |
| 4 | Education | -.17* | -.17* | -.03 | | | | | | | | | | | | | | | |
| 5 | Income | .13 | -.02 | .03 | .12 | | | | | | | | | | | | | | |
| 6 | Gendered Racism | -.08 | .04 | -.12 | .11 | -.05 | | | | | | | | | | | | | |
| 7 | BRIAS Preencounter | -.01 | .15 | -.21* | -.19* | -.04 | .13 | | | | | | | | | | | | |
| 8 | BRIAS Post-Encounter | -.13 | .17* | -.22** | -.21** | -.15 | .11 | .76** | | | | | | | | | | | |
| 9 | BRIAS Immersion | -.08 | .09 | -.08 | -.06 | -.03 | .32** | .35** | .49** | | | | | | | | | | |
| 10 | BRIAS Emersion | -.18* | -.17* | .05 | .25** | .05 | .13 | -.15 | -.02 | .46** | | | | | | | | | |
| 11 | BRIAS Internalization | .04 | -.13 | .05 | .16* | .02 | -.02 | -.41** | -.39** | .02 | .35** | | | | | | | | |
| 12 | WIAS Preencounter | .07 | .18* | -.07 | -.31** | -.07 | .06 | .58** | .53** | .28** | -.06 | -.12 | | | | | | | |
| 13 | WIAS Encounter | -.16* | .09 | -.16* | -.15 | -.16* | .22** | .40** | .58** | .49** | .16* | -.09 | .47** | | | | | | |
| 14 | WIAS ImmEmersion | -.22** | .10 | -.11 | -.18* | -.15 | .25** | .63** | .72** | .57** | .05 | -.27** | .52** | .74** | | | | | |
| 15 | WIAS Internalization | -.08 | -.18* | .03 | .17* | -.17* | .05 | -.24** | -.19* | -.12 | .19* | .46** | -.16 | -.00 | -.20* | | | | |
| 16 | Physical Activity | .14 | -.14 | -.02 | -.06 | .07 | .19* | .22** | .17* | .19* | .03 | -.00 | .04 | .07 | .16* | .07 | | | |
| 17 | Cognitive Restraint | .13 | -.03 | -.16* | .14 | .20* | .13 | -.04 | -.06 | .07 | .07 | .03 | -.14 | -.06 | -.10 | -.03 | .07 | | |
| 18 | Uncontrolled Eating | -.19* | .23** | -.28** | -.10 | -.10 | .19* | .35** | .47** | .26** | .12 | -.20* | .24** | .36** | .39** | -.03 | .09 | -.08 | |
| 19 | Emotional Eating | .09 | -.29** | .40** | -.02 | -.01 | -.23** | -.25** | -.30** | -.16 | -.11 | .10 | -.12 | -.26** | -.27** | .01 | -.03 | -.08 | -.78** |

Note: * $p < .05$. ** $p < .01$.

## Tests of Hypotheses

According to Frazier, Tix, and Barron (2004), mediation analysis involves a three step process. The first step was determining whether Gendered Racism predicted the criterion variables (i.e., Hypothesis 1). The second step assessed the extent to which Gendered Racism predicted the potential mediating variables racial identity attitudes (Hypothesis 2) or womanist identity attitudes (Hypothesis 3), and the third step determined whether inclusion of Gendered Racism and the potential mediating variables, racial identity or womanist identity, as predictors in the same model reduced gendered racism's effectiveness as a predictor. Multivariate multiple regression analyses were used to test these hypotheses.

**Hypothesis 1. Gendered racism will be related to lower levels of physical activity and Cognitive Restraint and higher levels of Emotional Eating and Uncontrolled Eating.**

To test hypothesis 1, total scores on the Gendered Racism scale were used to predict total scores on the International Physical Activities Questionnaire-Short (IPAQ-S) and levels of usage of the three types of eating styles, Cognitive Restraint, Uncontrolled Eating, and Emotional Eating, as assessed by the Three-Factor Eating Questionnaire. Higher scores on the Gendered Racism scale indicated higher levels of self-reported gendered racism experiences; higher scores on the IPAQ-S indicated higher levels of physical activity engagement; and higher scores on the eating scales respectively indicated greater ability to consciously restrict food intake, inability to control food intake, and overeating when experiencing negative moods. Means and standard deviations for predictor and outcome variables are shown in Table 4.

Table 4

Means and Standard Deviations for Gendered Racism Scale, Black Racial Identity Attitudes Scale, Womanist Identity Attitudes Scale, International Physical Activity Questionnaire-Short, and Three-Factor Eating Questionnaire ($N = 153$).

| Variables | Mean | *SD* | Min | Max |
|---|---|---|---|---|
| Gendered Racism Scale | 82.44 | 29.11 | 32.00 | 153.00 |
| Black Racial Identity Attitudes Scale | | | | |
| Preencounter | 33.07 | 7.78 | 20.00 | 51.00 |
| Post-Encounter | 15.73 | 5.42 | 8.00 | 29.00 |
| Immersion | 34.60 | 8.16 | 18.00 | 54.00 |
| Emersion | 29.69 | 4.58 | 19.00 | 40.00 |
| Internalization | 53.14 | 5.18 | 40.00 | 64.00 |
| Womanist Identity Attitudes Scale | | | | |
| Preencounter | 46.09 | 9.41 | 22.00 | 66.00 |
| Encounter | 21.69 | 3.93 | 12.00 | 29.00 |
| Immersion/Emersion | 36.89 | 9.01 | 16.00 | 56.00 |
| Internalization | 45.45 | 4.45 | 34.00 | 54.00 |
| Physical Activity Score | 1302.16 | 1237.89 | 0.00 | 4500.00 |
| Three Factor Eating Questionnaire | | | | |
| Cognitive Restraint | 39.13 | 16.43 | 4.55 | 77.27 |
| Uncontrolled Eating | 27.12 | 18.03 | 0.00 | 75.00 |
| Emotional Eating | 47.49 | 19.64 | 0.00 | 75.00 |

Note. Min= minimum computed score; Max= maximum computed score

The multivariate multiple regression analysis indicated that there was a significant relationship between scores on Gendered Racism and the criterion variables using the Wilks' lambda criterion, $F(4, 148) = 3.85$, $p < .01$; $\lambda = .906$, partial $\eta^2 = .09$, which indicated that 9.4% of variance was explained. Gendered Racism was significantly and positively related to Uncontrolled Eating, $F(1, 151) = 5.78$, $p < .05$, partial $\eta^2 = .04$, and IPAQ-S, $F(1, 151) = 5.40$, $p < .05$, $\eta^2 = .04$ (Figure 2). Also, Gendered Racism was significantly and negatively related to Emotional Eating, $F(1, 151) = 8.12$, $p < .01$, $\eta^2 =$

.05. The relationship between Gendered Racism and Cognitive Restraint was not significant. Therefore, when Black women's experiencing of gendered racism was high, their ability to control their food intake was low, they were more engaged in physical exercise, and their tendencies to eat in response to feeling emotionally unwell was low. Therefore, hypothesis 1 was partially supported. The first analysis indicated that there were significant relationships between Gendered Racism and the criterion variables that could be potentially mediated by racial identity and womanist identity.

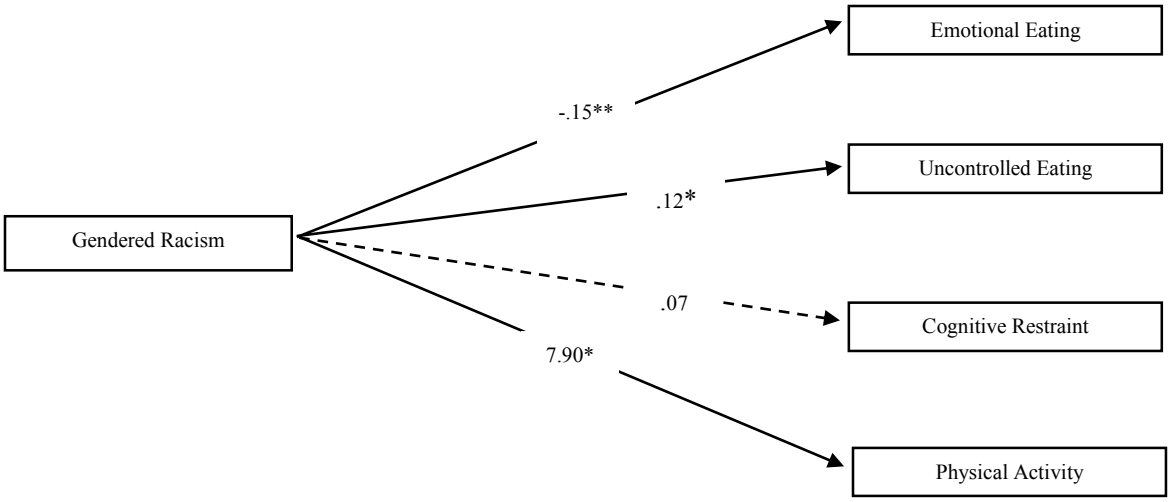


*Figure 2*. Relational model of predictor and criterion variables

**Hypothesis 2: The relationships between Gendered Racism and health behaviors will be mediated by racial identity attitudes. Specifically, the relationship between gendered racism and eating and exercise practices will no longer be significant when racial identity is entered into the model as a predictor variable.**

In the second step of the mediation analysis, multivariate multiple regression analysis was conducted to determine whether Gendered Racism scores significantly predicted the racial identity schemas. Therefore, in this analysis, scores on the Gendered

Racism scale were used to predict the five scores from the Black Racial Identity Attitudes Scale-Revised (BRIAS) scales. Higher Preencounter, Post-Encounter, Immersion, Emersion, and Internalization scores respectively indicated higher levels of conformity to society's attitudes toward Black people, of confusion regarding one's racial group membership, pro-Black/anti-White attitudes, contentment with Black culture and Black people, and positive and integrated view of one's racial group and simultaneous appreciation of members of other racial and ethnic groups.

The model using Gendered Racism to predict racial identity scores was significant as indicated by the Wilks' lambda criterion, $F(5, 147) = 3.91$, $p < .01$; $\lambda = .883$. Approximately 11.7% of variance was explained by the model, partial $\eta^2 = .12$, with Gendered Racism being significantly and positively related to BRIAS Immersion, $F(1, 151) = 17.51$, $p < .01$, partial $\eta^2 = .10$ (Figure 3). This finding suggests that, when Black women reported experiencing high levels of gendered racism, they used their Immersion schema to cope with it. No further significant relationships were found between Gendered Racism and racial identity schemas.

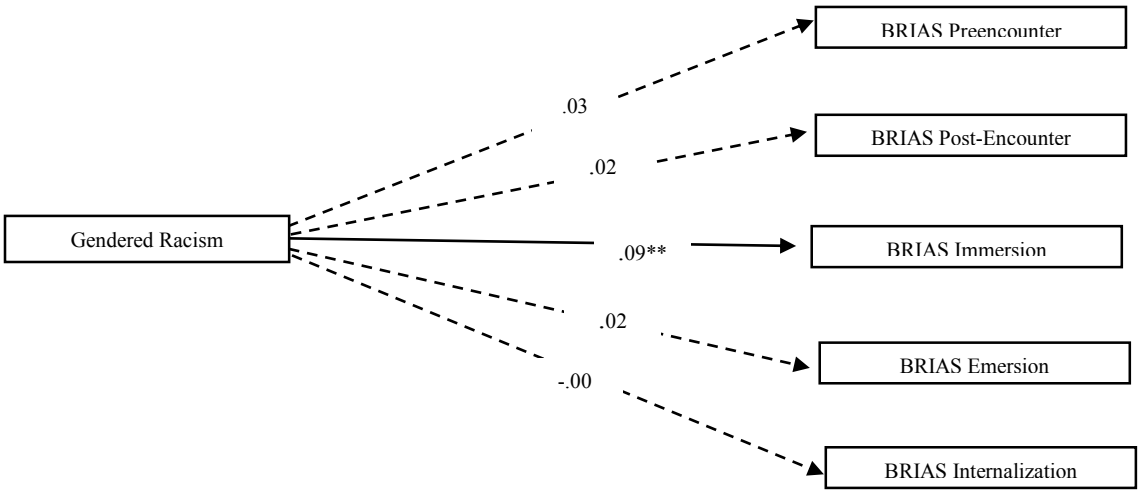


*Figure 3*. Relational model of predictor and racial identity mediating variables

The third step of mediation analysis involved determining whether scores on Gendered Racism significantly predicted scores on IPAQ-S, the Uncontrolled Eating, Emotional Eating, and Cognitive Restraint scales when racial identity schemas were also entered into the model as predictor variables (Figure 4). There was a significant relationship found between scores on Gendered Racism and the criterion variables using the Wilks' lambda criterion, $F(4, 143) = 11.53$, $p < .001$; $\lambda = .756$, partial $\eta^2 = .24$, indicating that approximately 24.4% of variance was explained by the model. Gendered Racism was significantly and negatively related to Emotional Eating, $F(1, 153) = 7.23$, $p < .01$, partial $\eta^2 = .05$, and significantly and positively related to Uncontrolled Eating, $F(1, 153) = 4.08$, $p < .05$, $\eta^2 = .03$ (Figure 4). However, the relationship between Gendered Racism and IPAQ-S was no longer significant when the racial identity schemas was entered into the model as a predictor variable. Considering the significant relationship found between Gendered Racism and BRIAS Immersion in step two of this hypothesis, the BRIAS Immersion schema mediated the relationship between scores on Gendered Racism and scores on IPAQ-S. Therefore, hypothesis 2 was partially supported.

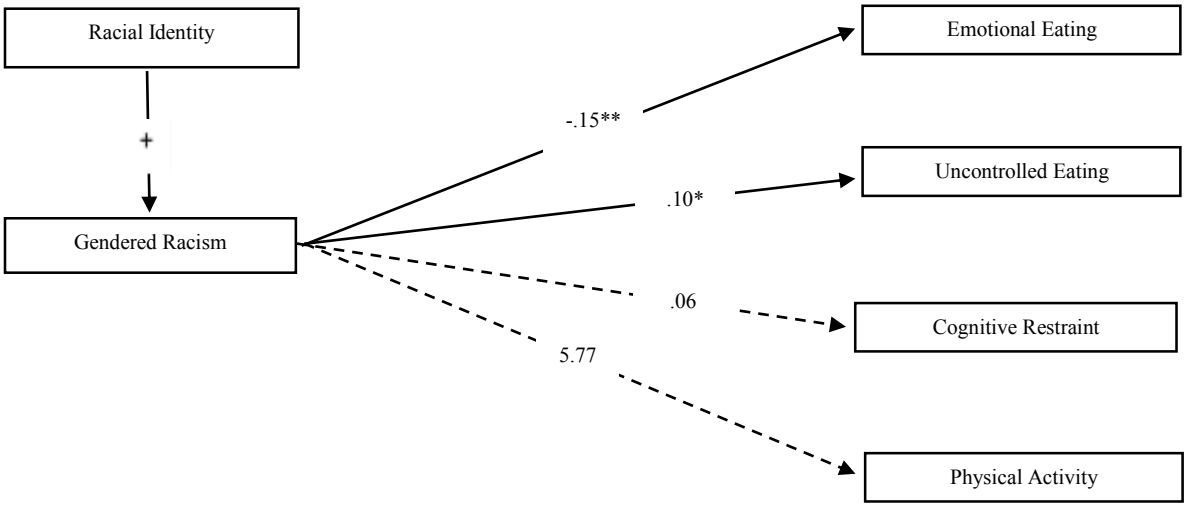


*Figure 4*. Relational mediation model of predictor, criterion, and racial identity mediating variables

**Hypothesis 3. The relationships between Gendered Racism and health behaviors will be mediated by womanist identity attitudes. Specifically, the relationship between gendered racism and eating and exercise practices will no longer be significant when gender identity is entered into the model as a predictor variable.**

Testing for mediation in Hypothesis 3 involved the same steps as for Hypothesis 2. In the second step of the mediation analysis, multivariate multiple regression analysis was conducted to determine whether Gendered Racism scores significantly predicted the womanist identity schemas. Therefore, in this analysis, scores on the Gendered Racism scale were used to predict the four scores on the Womanist Identity Attitudes Scale (WIAS). Higher scores on the Gendered Racism scale were interpreted as previously described. Higher WIAS scores respectively indicated higher levels of conformity to traditional gender values (Preencounter), confusion regarding one's gender roles and values (Encounter), idealization of female values and denigration of traditional male values (Immersion/Emersion), and positive and integrated gender attitudes and values (Internalization).

There was a significant relationship found between scores on Gendered Racism and the criterion variables using the Wilks' lambda criterion, $F(4, 148) = 3.28$, $p < .05$; $\lambda = .919$, partial $\eta^2 = .08$, indicating that 8.1% of the variance was explained by the model. Gendered Racism was significantly and positively related to WIAS Encounter, $F(1, 151) = 7.48$, $p < .01$, partial $\eta^2 = .05$, and WIAS Immersion/ Emersion, $F(1, 151) = 10.40$, $p < .01$, partial $\eta^2 = .06$ (Figure 5). These results indicated that when Black women reported

experiencing higher levels of gendered racism, they used their Encounter and Immersion/Emersion schemas.

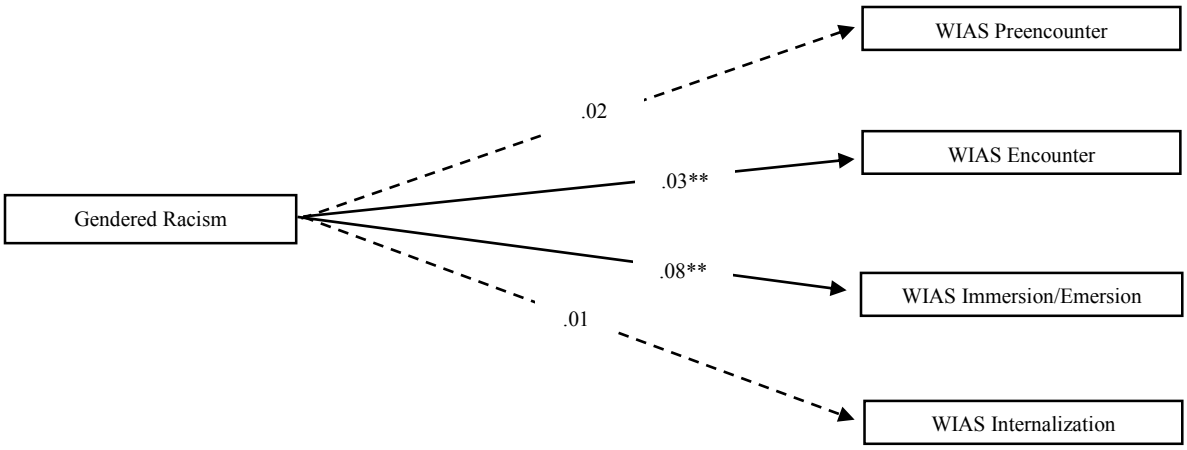


*Figure 5*. Relational model of predictor and womanist identity mediating variables

The third step of the mediation analysis involved determining whether scores on Gendered Racism significantly predicted scores on IPAQ-S, Uncontrolled Eating, Emotional Eating, and Cognitive Restraint scales when womanist identity schemas were also entered into the model as predictor variables (Figure 6). There was a significant relationship found between Gendered Racism and the criterion variables using the Wilks' lambda criterion, $F(4, 144) = 12.48$, $p < .001$; $\lambda = .743$, partial $\eta^2 = .26$, indicating that approximately 25.7% of variance was explained by the model. In the regression model, Gendered Racism was significantly negatively related to Emotional Eating, $F(1, 153) = 3.40$, $p < .05$, partial $\eta^2 = .03$. The relationships between Gendered Racism and Uncontrolled Eating and IPAQ-S were no longer significant when womanist identity was entered into the model as a predictor variable, indicating that WIAS Encounter and Immersion/Emersion Immersion mediated the relationship between scores on Gendered

Racism and scores on Uncontrolled Eating and IPAQ-S. Hypothesis 3 was partially supported.

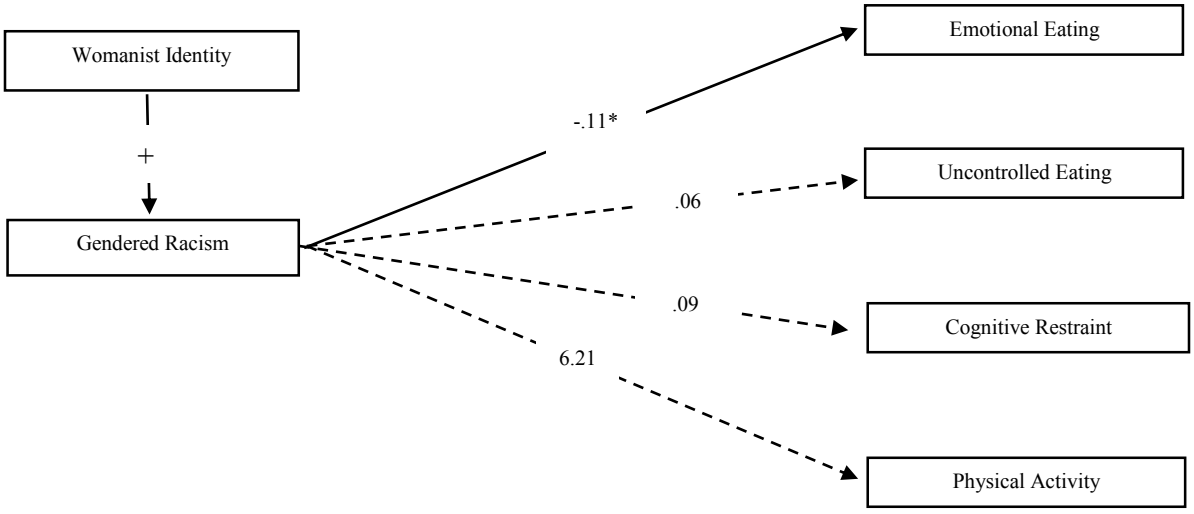


*Figure 6*. Relational mediation model of predictor, criterion, and womanist identity mediating variables

## Post Hoc Analyses

**Racial and Womanist Identity and Criterion Variables.** When multivariate multiple regression analyses are conducted, the criterion variables are treated as orthogonal or independent of each other and I treated BRIAS and WIAS variables as different from each other by conducting separate analyses. To discover whether the variables were interrelated in ways not predicted by my hypotheses, I conducted a post hoc exploratory canonical correlation analysis (CCA).

CCA is a multivariate technique that allows the researcher to simultaneously make comparisons among sets of predictor and criterion variables (Sherry & Henson, 2005). CCA is analogous to factor analysis in that it creates synthetic variable sets or constructs that maximize the shared variance between the predictor and criterion variable sets. The responses to the predictor and criterion measures are each correlated with the synthetic variable(s), called a "function". For this study, the predictor variables were Gendered Racism, Racial Identity, and Womanist Identity and the criterion variables were the health behaviors. The function was analyzed by examining the proportion of shared variance between the variable sets ($R^2_c$); the structure coefficient (*Coef*), which is the correlation between the variable and the synthetic variable; and the squared structure coefficient($R^2_c$) which represents the proportion (or percentage) of shared variance between the variable and the synthetic variable.

The full model encompassing four functions was statistically significant using Wilks' $\lambda = .578$ criterion, $F\ (40, 550.00) = 2.16$, $p < .001$. The full model yielded an effect size in an $R^2$ metric, determined by $\lambda - 1$. As such, the effect size was .422,

suggesting that the full model explained 42% of the variance among the variable sets. The canonical correlations for the four functions were respectively .298 ($R^2$= 30%), .108 ($R^2$= 11%), .043 ($R^2$= 4%), and .037 ($R^2$= 4%). As indicated, the full model was significant, $F(40, 528.93) = 2.06$, $p < .001$. With Function 1 removed, the models containing Functions 2 to 4, $F(27, 409.51) = 1.05$, $p = .40$ ; Functions 3 to 4, $F(16, 282.00) = .729$, $p = .76$; and Function 4, $F(7, 142.00) = .77$, $p = .612$, were not significant and did not explain meaningful variance.

Therefore, only the first function was interpreted (Table 5). Structure coefficients with the same signs indicate that the variables were positively related. Coefficients of at least |.30| were interpreted. In the predictor variable set, all of the variables were significantly positively related except WIAS Internalization ($r_s = .02$) and BRIAS Emersion ($r_s = -.22$), which were not significant, and BRIAS Internalization ($r_s = .33$), which was negatively related. BRIAS Post-Encounter ($r_s = -.90$) accounted for the most variance (80.10%) in the predictor variable set, and Gendered Racism ($r_s = -.43$) was only moderately related to the function. These results suggest that when the women were reacting to external gendered racism (i.e., Gendered Racism), their own internalized racism (i.e., BRIAS Post-Encounter, Preencounter, and Immersion), and internalized sexism (i.e., WIAS Immersion/Emersion, Post-Encounter, and Preencounter), they were not self-defining a positive Black racial identity.

Table 5

Summary of Canonical Correlations using Gendered Racism, Racial Identity Statuses, and Womanist Identity Statuses to Predict Health Behaviors

| *Variable* | *Coef* | $r_s$ | $r_s^2$(%) |
|---|---|---|---|
| Gendered Racism | -.30 | **-.43** | 18.84% |
| Womanist Identity Statuses | | | |
| WIAS Preencounter | .10 | **-.42** | 17.98% |
| WIAS Encounter | -.08 | **-.64** | 40.70% |
| WIAS Immersion/Emersion | -.97 | **-.74** | 54.91% |
| WIAS Internalization | -.14 | .02 | 0.00% |
| Racial Identity Statuses | | | |
| BRIAS Preencounter | -.19 | **-.72** | 52.27% |
| BRIAS Post-Encounter | -.72 | **-.90** | 80.10% |
| BRIAS Immersion | .10 | **-.56** | 31.58% |
| BRIAS Emersion | -.26 | -.22 | 0.05% |
| BRIAS Internalization | .12 | **.33** | 11.16% |
| $R^2_c$ | | | 29.91% |
| Health Behaviors | | | |
| Emotional Eating | -.09 | **.70** | 48.30% |
| Uncontrolled Eating | -.99 | **-.94** | 88.17% |
| Cognitive Restraint | -.06 | .00 | 0.00% |
| Physical Activity | -.33 | **-.42** | 17.56% |

Note: Structure coefficients ($r_s$) greater than |.30| are bolded and are in bold font. Coef = standardized canonical function coefficient; $r_s$ = structure coefficient; $r_s^2$ = squared structure coefficient; $R^2_c$= squared canonical correlation.

Within the criterion variable set, Uncontrolled Eating ($r_s$ =-.94) and Emotional Eating ($r_s$ = .70) respectively accounted for the most variance, 88.17% and 48.30%, respectively. Cognitive Restraint ($r_s$ =0) was not significantly related to the function but Physical Activity ($r_s$ = -.42) was moderately related. These results indicate that when Black women engaged in Uncontrolled Eating and participated in Physical Activity, they

did not engage in Emotional Eating. The negative relationship found between Uncontrolled Eating and Emotional eating was counter to previous research that has found a positive relationship between scores on these measures (de Lauzon et al., 2004).

Interpretation of the results across the predictor and criterion sets indicates that when the women experienced race-gender identity confusion (WIAS Post-Encounter and BRIAS Post-Encounter), were seeking a positive gender-race identity (WIAS Immersion/Emersion and BRIAS Immersion), and were conforming to race-gender societal expectations (BRIAS Preencounter, WIAS Preencounter) within the context of some perceived Gendered Racism, their health practices were mixed. This race-gender- confused reactive pattern was related to high levels of Uncontrolled Eating and physical activity, but low levels of Emotional Eating.

Alternatively, the function coefficients can be interpreted in the opposite direction, such that when BRIAS Internalization was (moderately high) and the reactive race-gender schemas and Gendered racism were low, eating when one feels emotionally distressed (i.e., Emotional Eating) was high. These results suggest that, although there was a moderate relationship between gendered racism, racial and gendered coping processes, and health behaviors, the combination of racial and gender identity schemas was a better predictor of health behaviors.

**Research Question: How are body weight and satisfaction related to eating and exercise practices of Black women?**

A multivariate multiple regression analysis was conducted to examine how body mass index (BMI) and Weight Satisfaction were related to Uncontrolled Eating,

Emotional Eating, Cognitive Restraint, and physical activity engagement (Table 6). For this analysis, participants classified as Underweight ($n$= 3) were excluded from the analysis due to the small sample size, and Healthy Weight, Overweight, and Obese classifications were dummy coded, with Healthy Weight as the reference group. The overall model for Weight Satisfaction and BMI predicting health behaviors was significant using Wilks' lambda criterion, $F(8, 288) = 4.17$, $p < .001$; $\lambda = .803$. Weight Satisfaction was significantly negatively related to Uncontrolled Eating, $F(1,150) = 13.02$, $p < .01$, and positively related to Emotional Eating, $F(1,150) = 4.88$, $p < .01$. There were no significant relationships found between BMI categories and health behaviors.

Table 6

Weight Satisfaction and BMI Predicting Health Behaviors (*n*= 150)

| Predictor Variable | B | SE | $R^2$ | t | F | Criterion Variable |
|---|---|---|---|---|---|---|
| Weight Satisfaction | 7.02 | 1.44 | .14 | 4.88 | 23.79** | Emotional Eating |
| | -4.89 | 1.36 | .08 | -3.61 | 13.02** | Uncontrolled Eating |
| | -1.40 | 1.30 | .01 | -1.08 | 1.17 | Cognitive Restraint |
| | -38.23 | 100.61 | .00 | 0.38 | .14 | Physical Activity |
| BMI | -1.18 | 3.91 | .00 | -.30 | .09 | Emotional Eating |
| | 1.72 | 3.68 | .00 | .47 | .22 | Uncontrolled Eating |
| | 2.01 | 3.52 | .00 | .57 | .33 | Cognitive Restraint |
| | -.271.46 | 273.48 | .01 | -.99 | .99 | Physical Activity |

Note: * $p < .05$. ** $p < .01$

# Chapter 5

## Discussion

The purpose of this study was to investigate the relationship between gendered racism and health behaviors of Black women using a biopsychosocial approach, which proposes that health outcomes (e.g., obesity) are influenced by biological (e.g., stress), psychological (e.g., coping strategies), and social processes (e.g., discrimination). Previous studies have highlighted the relationships between sexism or racism as separate forms of discrimination and health outcomes (e.g., Albert & Williams, 2011; Collins et al., 2004; Rosenthal & Lobel, 2011). However, no studies, to date, have examined the complex interrelationships between racial and gendered prejudiced and discriminatory experiences as social processes that affect health outcomes of Black women.

In addition, many studies have examined the effects of health behaviors on health outcomes and have determined that health behaviors significantly affect health outcomes such as obesity (e.g., Caudwell et al., 2013), but these studies have not included psychological and social variables. Considering that health behaviors have long lasting consequences, it was important to assess health behaviors rather than health outcomes alone in combination with other factors derived from the biopsychosocial perspective. Using a sample of Black women, the current study addressed two essential questions derived from the biopsychosocial model; (a) whether or how gendered racism affected health behaviors of Black women and (b) whether racial and gender identity buffered the negative effects of gendered racism on health behaviors of Black women.

**Does Gendered Racism Predict Health Behaviors?**

Biopsychosocial theory implies that discrimination may be a catalyst for negative health outcomes, although it does not specify which types of discrimination are relevant. In the current study, discrimination was operationally defined as women's reports of their levels of gendered and racist discrimination. Thus, the first premise tested was whether greater experiences of gendered racism predicted Black women's negative health behaviors. As Figure 2 highlights, this hypothesis was partially supported. Experiencing gendered racism was related to higher levels of Uncontrolled Eating. However, more experiences of gendered racism also were related to lower levels of Emotional Eating and higher engagement in physical activity. The latter findings contradict the relevant hypotheses.

The hypotheses were developed based on research suggesting that stress often leads women to engage in negative eating behaviors and decreased motivation for physical activity (e.g., Adamus-Leach et al., 2013; Bjorntorp, 2000; Dallman et al., 2005; Moore-Green et al., 2012; Pekmezi et al., 2013; Tryon et al., 2013). Therefore, the findings appear to be inconsistent with existing evidence and biopsychosocial theory. Perhaps the educational level of the sample partially explains the contradictory findings, given that previous researchers have studied samples of lower SES whereas the majority of the current sample was highly educated. Most of the women (75%) self-reported their highest level of completed education as having a Bachelor's degree or above. Most studies examining the disproportionate rates of health behaviors and outcomes in Black women have attributed disparities to socioeconomic differences (e.g., Klesges, DeBron, & Meyers, 2001). The health disparities are often attributed to fewer resources and less

time. Hence, most scholars argue that Black women with less education are less likely to engage in positive health behaviors. However, with a sample of Black women with higher educational attainment, resource acquisition might not have been as much of a factor in their health behaviors. Though there were no significant relationships found between education and the outcome variables in the current study presumably because the sample was so homogeneous with respect to education, perhaps a targeted study examining the relationships between health knowledge and education and health behaviors might provide some insight into the effects of socioeconomic indicators on stress-related eating behaviors.

Scholars have also suggested that individuals with more education might have greater health knowledge (Kenkel, 1991; Nyaga, 2000). Therefore, it is plausible that knowledge about the relationship between physical exercise and stress may have caused Black women to engage in physical activity when faced with stressful events, but does not account for their higher reported levels of Uncontrolled Eating. Yet, knowing that (a) exercise mitigates stress and (b) that emotional eating is often a response to stress may have encouraged Black women to engage in exercise as a way of reducing stress and deliberately avoiding eating when they were aware of feeling emotionally unwell. Nevertheless, the finding that increased exercise was related to gendered racism experiences seems to be contrary to the hypotheses, but may be an equally important factor to consider.

**Do Racial and Gender Identities Buffer the Effects of Gendered Racism on Health Behaviors in Black Women?**

The second premise of the biopsychosocial model is that effective coping strategies can reduce the negative effects of discrimination on health outcomes (Neblett & Roberts, 2013). In the current study, racial and womanist identity schemas were conceptualized as separate sets of coping strategies that would buffer the negative effects of gendered racism on health behaviors. Hypotheses 2 and 3 suggested that sophisticated racial or womanist identity were coping processes that might reduce the negative effects of gendered racism on the health behaviors of Black women in the study.

The results indicated that BRIAS Immersion mediated the relationship between Gendered Racism and physical activity engagement, and WIAS Encounter and WIAS Immersion/Emersion mediated the relationship between Gendered Racism and Uncontrolled Eating and physical activity engagement. In other words, one type of responses to gendered racism was to (a) experience confusion regarding one's gender and (b) denigrate male and White racial norms, while developing a superficial valuing of female and Black racial norms. These coping schemas appear to have been significant factors in promoting physical activity engagement and the inability to control one's food consumption.

In sum, the gendered-racism mediation model as tested was partially supported. Racial identity functioned as a mediating factor in physical activity engagement for Black women and womanist identity functioned as a mediating factor in physical activity engagement and the ability for Black women to control their food intake. These findings suggest that psychological responses to gendered racism affect Black women's health

behaviors. Thus, the biopsychosocial model remains a relevant conceptual framework for addressing health practices of Black women.

**An Alternative Race-Gender or Gender-Race Model**

Although the mediation model did not account for as much variance as anticipated, it is possible that the effects were not as clear cut as expected because the racial and gender schemas were analyzed as separate sets of variables whereas race and gender were integrated in the measure of Gendered Racism. That is, the Gendered Racism items asked the women to respond as a "Black woman" rather than as a woman or a Black person. Thus, to determine whether inclusion of all of the predictors, mediators, and criterion variables would yield more interpretable results, I conducted a post hoc canonical correlation analysis (CCA).

The CCA revealed results similar to those obtained in the test of Hypothesis 1 in that Gendered racism was positively related to Uncontrolled Eating and Physical Activity and negatively related to Emotional Eating, but not related to Cognitive Restraint. However, it also indicated that the women's use of racial and gender identity schemas were virtually parallel processes. For the most part, when one of the racial identity schemas was high, so was the analogous womanist identity schema, although they varied in which was most strongly related to the construct represented by Function 1. For example, when BRIAS Post-Encounter was a strong predictor so was WIAS Post-Encounter though not as strongly, but when WIAS Immersion/Emersion was a strong predictor, so was BRIAS Immersion, though not as strongly.

Moreover, the CCA analysis revealed that high endorsement of items on the Gendered Racism scale was also related to high endorsement of reactive racial and

gender coping strategies, but it did not explain as much variance as the internalized racism and sexism variables. Existing literature suggests that these coping styles have been associated with a variety of negative mental health symptoms including stress, depression, body shame, unhealthy eating attitudes, and lower self-esteem (Franklin-Jackson & Carter, 2007; Hurt et al., 2007; Jones, Cross, & DeFour, 2007; Ossana et al., 1992; Watt, 2006). This analysis provided a layer of context in that it suggested that women's perceptions of external barriers (e.g., gendered racism) may not be as meaningful as their internalized race-gender coping strategies. In other words, the ways in which Black women coped with racial or gender stressors not only possibly affected their health behaviors, but also the manner in which they perceived gendered racism (Clark et al., 1999).

More specifically, as shown in Table 5, Gendered Racism was related to pro-Black/anti-White attitudes, confusion about one's gender, and idealization of female values and denigration of male values. Helms (1995) proposed that Internalization racial identity and gender identity are information processing schemas that allow Black people and women to respond to racial and gender stimuli in ways that protect them from externally imposed racist/sexist norms (Table 5). The results of this study suggest that BRIAS Internalization as a protective coping schema reduced the women's levels of experiencing gendered racism, hypervigilance, and searching for self-affirmation (Helms, 1995; Ossana et al., 1992), but the same was not true for WIAS Internalization. Perhaps defining one's womanhood contributes significantly less to the overall model in comparison to other relevant variables in the study.

Nevertheless, BRIAS Internalization was related to high levels of emotional eating and low levels of physical activity, which it should not have been; whereas Gendered Racism was related to Uncontrolled Eating as predicted, but not to either Emotional Eating or physical activity as predicted. In fact, it can be argued that gendered racism and hypervigilant, confused, and conforming racial and gender identities contribute to more healthy practices than self-defining oneself as a Black person.

**Health Behaviors**

Recall that the purpose of adapting the biopsychosocial model to Black women was to investigate whether factors that might contribute to overweight and obesity could be identified. In some respects, that goal was accomplished because physical activity and two types of eating styles (i.e., Emotional Eating and Uncontrolled Eating) consistently appeared across analyses as important aspects of the women's health behaviors. Yet equally important is the finding that the results were often not consistent with previous literature (Bjorntorp, 2001; Dallman et al., 2005; Muraven & Baumeister, 2000). For example, scores on the BRIAS Post-Encounter and WIAS Immersion/ Emersion strongly predicted one healthy behavior (i.e., exercising) and one unhealthy behavior (i.e., Uncontrolled Eating).

One possible explanation for the contradictory findings is that the health scales did not adequately assess Black women's experiences. Researchers have neglected to study, operationalize, and articulate the eating and exercise practices of Black women. To date, few studies have specifically examined the unique experiences of Black women's eating and exercise behaviors and their relation to Black women's psychological states. In other words, studies have not investigated the intrapsychic experiences of physical

activity engagement, and restrained, controlled, and emotional eating behaviors of Black women, leading to there being limited tools available for measuring and assessing such practices.

Another explanation for the contradictory findings is that it is often easier to engage in exercise than it is to change one's eating patterns (Joping & Whitmarsh, 2008). Exercise is often viewed as a more active, controllable process in comparison to eating well (Goodrick & Foreyt, 1991; King, Frey-Hewitt, Dreon, & Wood, 1989). In other words, engaging in physical activity in response to stress can often be easier than eating well. For many, exercise is an enjoyable task (Skender et al., 1996). Healthy eating, in contrast, requires the monitoring and restriction of energy-enhancing products (i.e., food) and provides limited positive emotional reinforcement.

Participants in the study were asked to name their favorite food and exercise. They noted a variety of unhealthy food options such as pizza, fried fish, and macaroni and cheese as their favorite foods, although they were not actually asked how often they indulged in these foods. Participants listed exercises such as Zumba, walking, and running, which may provide many emotional and physical health benefits. When under stress, participants' favorite physical activities would probably not foster negative health consequences, but certain foods, even participants' favorite foods, may have negative consequences if consumed frequently.

**Weight and Weight Satisfaction as Factors in Health Behaviors**

Studies have demonstrated that Black women tend to be more satisfied with their weight at larger sizes in comparison to White women (Chandler-Laney et al., 2009). For Black women, larger body sizes have often been considered normal and, therefore, Black

women may be less likely to engage in weight-reduction behaviors. Although both Black and White women might desire to be thin, Black women's quality of life and body image are less likely to be affected by their weight (Cox et al., 2011). Some studies argue that this may be an essential factor in Black women's motivation to engage in exercise and healthy eating practices (Kumanyika et al., 1993).

As a post-hoc analysis, the BMI and Weight Satisfaction were examined in relation to the health behavior variables in the study. The results of this analysis indicated that BMI did not predict health behaviors. However, higher levels of Weight Satisfaction were related to higher levels of Emotional Eating and lower levels of Uncontrolled Eating (Table 6). These results suggest that Uncontrolled Eating and Emotional Eating might be significant factors in Black women's psychological and socio-cultural response to their views of their bodies.

Participants, who reported higher levels of satisfaction with their body weights, engaged in lower levels of Uncontrolled Eating in comparison to participants who were less satisfied with their weights. This suggests that participants experiencing less satisfaction with their weight may have had less control over their dietary intake. In addition, participants who reported higher levels of weight satisfaction were likely to report higher levels of Emotional Eating in comparison to participants who reported being less satisfied with their weight. It is possible that when women are satisfied with their weight, they either lack knowledge about good eating practices or actively choose to use food as their manner of coping with emotions. Thus, they might not view their eating practices as uncontrolled. Therefore, although Black women who are more satisfied with their weight might have felt more in control of their eating behaviors, when experiencing

emotional dysphoria, the ability to control these everyday eating behaviors was greatly inhibited.

These results support previous literature indicating that Black women's weight-related behaviors are affected by their body image (e.g., Cox et al., 2011). Yet the findings suggest the need for more nuanced interpretations of health factors identified in previous studies. Although Black women might be more satisfied with their weight in comparison to White women, the reasons for Black women's satisfaction with their weight are still factors to consider when investigating their health-related behaviors.

**Methodological Limitations**

Methodological limitations should be considered when interpreting the obtained results and generalizing the results of the current study to other samples of Black women. These limitations include (a) characteristics of the sample, (b) the measures used in the assessment of variables, and (c) research design and statistical concerns.

**Sample Concerns.** Given the 153 usable surveys in this study, the limited sample size might have affected the ability to generalize the study results. When Black women are included in research, these studies have tended to include Black women in urban environments and/or Black women of lower socioeconomic positions (e.g., Wolin et al., 2008). Given that previous literature seems to have focused on women of lower socioeconomic status, it is possible that the obtained results would not generalize to the most frequently studied Black women, those of lower socioeconomic status. Therefore, there is a fundamental need to include Black women of diverse socioeconomic backgrounds in future research.

Participants in the study were recruited via two modalities, paper surveys and online surveys. Paper and online surveys were provided because the use of one modality would have limited the ability to explore the experience of Black women with diverse education levels, socioeconomic resources (e.g., access to a computer), and ages. As stated in the preliminary analyses, there were some differences in the sample based on recruitment modality. Having a larger sample size (e.g., $N$= 182), as suggested by Soper (2014), might have allowed the researcher to more astutely examine the ways in which Black women's additional demographic characteristics intersected with the variables investigated in the study. Therefore, the limited sample size and diversity of the sample may have restricted the generalizability of the results of the study.

**Limitations of Measures.** There are measurement limitations to consider. First, the Gendered Racism scale was comprised of two modified scales (i.e., Lifetime and Appraisal) of the Schedule of Racist Events. Considering the significantly high correlation of the Lifetime and Appraisal scale ($r$= .80, $p$ < .001), these scales were combined to create a gendered racist score that reflected both the experiences of gendered racism and the related stress of gendered racism for Black women. The Lifetime (α = .92) and Appraisal (α = .92) subscales yielded high Cronbach alpha internal reliability coefficients and the combined scale also yielded a high Cronbach alpha internal reliability (α= .95). Low reliability is often a documented concern in research (Downing, 2004) due to the lack of consistency in item responses. However, a limitation of too high reliability coefficients is that they may indicate homogeneity or redundancy in measuring the underlying construct (Neuendorf, 2011). In such cases, criterion variables would have to essentially measure the same narrow construct in order to account for significant

variance. The table of correlations (Table 3) shows low correlations between gendered racism and the other variables, which may indicate that the high reliability of predictor variable scores was problematic.

Second, the measures used in this study were self-report. Self-report studies have limitations due to the ability to either over- or under-estimate one's attitudes or engagement in certain behaviors, especially physical activity (Adams et al., 2005; Prince et al., 2008). In particular, measures of physical activity are often susceptible to bias and/or error. For example, Wolin et al. (2008) suggested that participants reporting their physical activity engagement often misclassify the intensity and duration of their activities. Any self-report measure of physical activity will have limitations.

Third, most measures examining health engagement processes do not include samples of Black women. Consequently, it is possible that the health measures used in this study do not adequately assess Black women's health behaviors. For example, the types of exercises the current sample preferred (e.g., Zumba) may not have been assessed by the physical activity measure. Similarly, perhaps the eating styles that were measured are not considered unhealthy in African American culture, particularly Emotional Eating, defined as the propensity to overeat when experiencing negative mood states (Karlsson et al., 2000). For example, it may be possible that Black women under-eat rather than overeat when feeling emotionally unwell (Adam & Epel, 2007).

Related to this last point, few measures have examined both the healthy and unhealthy psychological processes of food engagement. Many measures intending to measure food-related behaviors often examine disordered eating behaviors (e.g., Eating Attitudes Test; Garner & Garfinkel, 1979). Measures examining general food intake tend

to be confusing, labor intensive, or produce inconsistent results (Werneke, Davis, De Moor, & Baranowshi, 2001). Other measures often do not adequately assess the health engagement of Black women with larger body masses (Kumanyika et al., 2003). Moreover, the eating measures used in the present study did not parse potentially varying emotional responses (e.g., depressed versus anxious mood) that could have been related to different food intake practices. Inability to assess emotional correlates of eating leaves many unanswered questions. Therefore, future research could benefit from development of measures for examining general food intake that can reveal both healthy and unhealthy food-related behaviors, as well as food intake as a product of differing emotional responses.

Lastly, the Gendered Racism scale was modified in two ways. First, the Schedule of Racist Events scale (Landrine & Klonoff, 1996) was modified to reflect the intersection of both racism and sexism experienced by Black women rather than gender alone. Second, because of the high correlation between the two subscales, Appraisal and Lifetime, I combined the scales to generate an overall Gendered Racism score for each participant. Considering that use of Landrine and Klonoff measure in this manner is new, the independent validity of scores on the measure has not been investigated (Cohen & Swerdlik, 2002). The results of the present study indicated that racial identity was more strongly related to racial constructs than was gendered-racism, but more validity studies using explicit racism and sexism measures are needed.

**Statistical Limitations**

Significant relationships between variables in the study were found. However, the considerable number of low to moderate effect sizes in the study should be explored

to discover potential confounding factors. One fundamental assumption (i.e., homoscedasticity) of the multivariate regression technique used in the tests of hypotheses in the current study was not met. The assumption of homoscedasticity posits that the values of outcome variables are equally distributed across the values of the predictor variable(s). However, Tabachnik and Fidell (2007) argue that a lack of homoscedasticity does not invalidate an analysis. Rather, assumption violations might reduce the strength of the relationships between the predictor and outcome variables. Therefore, another plausible explanation for the persistently low to moderate effect sizes is that this assumption with respect to the data was not been met.

**Implications for Research**

There is limited research examining discrimination's effects on Black women's health engagement strategies. The current study shed light on multiple factors investigators should consider when conducting research related to the experiences of Black women. Indeed, it is important to focus on Black women in research and improve the ways in which researchers understand health engagement when studying them. This improved understanding would include creating a broader focus on the biological, psychological, and social factors that uniquely affect Black women. Also, it would include focusing on Black women's intersecting race and gender identities as psychological processes underlying their health behaviors.

When studying Black women's experiences, scholars often evaluate race or gender, without a greater understanding of the dynamic engagement of the two (Settles, 2006). The unique intersection of race and gender for Black women is often neglected in research. Research on Black people's experiences often does not acknowledge the

unique role of gender in Black women's psychological processes. Likewise, research on women's experiences often makes Black women's racial experiences invisible. Therefore, researchers need to develop a culture of recognizing intersecting identities.

In addition, it is not enough to name identities and provide assumptions about those identities. Rather, researchers should seek to understand the internal engagement of Black women's identities. Often, race and gender are labels used to describe the internal psychological processes of Black women. However, the women's internal processes cannot be examined unless researchers define, operationalize, and assess Black women's psychological interactions with their socially defined racial and gender identities. In other words, Black women differ in the manner in which they process information pertaining to their race and gender. It is imperative that researchers understand these differences and how these differences affect variables being assessed in their research.

In addition to understanding Black women's intersecting identities, it is also important to examine how these identities intersect with Black women's relationships with their experiences of racism and sexism and their health. It is important to recognize the psychological processes that might lead to those health outcomes. Perhaps if researchers focused on psychological processes, the psychological community could provide better assessments of Black women's health behaviors. In understanding how stress, and perhaps other related factors, affects Black women's health engagement, researchers might be more effective in providing recommendations for practitioners.

Moreover, health engagement strategies should be viewed in light of their differing effects on Black women's psychological well-being. (Goodrick & Foreyt, 1991; King et al., 1989; Skender et al., 1996). The current study investigated physical activity

and eating practices as Black women's health engagement. However, the results of the current study might suggest that, while eating and exercise are health behaviors, the underlying processes of engaging in food and exercise might differ. Thus, it may be useful not only to explore health engagement as a health response, but also to explore health engagement as separate components of Black women's coping processes.

**Implications for Practice**

The current study investigated some fundamental assertions about gendered racism and its ability to affect Black women's relationships with their bodies. Gendered Racism not only affects Black women's health engagement strategies, but also their abilities to cope with the stressor itself. When faced with stressful experiences, Black women internally search for ways to manage their emotional state. However, finding a helpful way to internally navigate their experiences can be a challenge.

In the current study, reporting greater experiences of gendered racism was related to Black women also reporting high levels of confusion regarding both their race and gender. A potential result of this confusion is that Black women were actively engaged in physical activity, to possibly mitigate stress, and yet still engaged in uncontrolled eating. Scholars have found that dealing with stressors requires a lot of effort, particularly for Black people (Geronimus, Hicken, Keene, & Bound, 2006). Possibly, considerably more effort is required for Black women to cope because they experience a greater variety of discrimination than other race-gender groups. Therefore, chronic stressors accompanied by the need for "high effort coping" (p. 826) might lead to deterioration in Black women's health and their internal coping processes. There is a continual need to address Black women's self-care strategies. Effective and helpful

coping should be addressed at all stages of the women's lifespan in an effort to reduce the potential multifaceted effects of stress over time.

In addition, there is a need to recognize the intersection of Black women's race and gender as affecting their coping and health engagement processes. Black women face continual tensions, aggressions, and experiences of discrimination and harassment because of their gender and race (Settles, 2006). Therefore, although their race or gender might be more salient in different contexts, it is the intersection of the two that place Black women in chronic positions of marginalization. Neglecting their race or their gender prevents comprehensive engagement with their psychological processes.

Clinicians working with Black women should seek to support Black women's overall understanding of their race and gender and their experiences of racism and sexism. Considering that confusion often ensues from gendered-racist experiences, it is important that clinicians support Black women's abilities to think more complexly about their race and gender. Gaining a more complex way of viewing oneself would place Black women in a position to more effectively cope with the gendered-racism they experience. As Helms (1995) suggests, this would require clinicians to gain greater awareness of their own identities in order to provide a growth-fostering experience for Black women.

Clinicians should also seek to be more knowledgeable of the interpersonal, cultural, and institutional gendered-racist experiences that encapsulate Black women's daily lives. Gaining a contextual understanding of Black women's daily lived experiences could support clinicians' abilities to be effective in developing the skills and processes to support Black women. Gaining more awareness of the aggressions Black

women face could help clinicians understand the ways in which they themselves might reproduce experiences of gendered-racism.

As stated, Black women experience tangible and intangible barriers to seeking and receiving support. Most scholars focus on the tangible barriers such as socioeconomic limitations or access to healthy food options and transportation to health centers. However, consistent with the biopsychosocial theory, it is important to acknowledge both internal and external processes of stress and health. There is a fundamental need for the psychology community to create a disciplinary culture that is responsive to Black women's psychological needs. Creating environments, spaces, and an overall culture that acknowledges Black women and their experience could reduce their daily stressors and reduce barriers to seeking mental health services. In addition, clinicians should seek to understand the behaviors associated with Black women's stressors. In particular, clinicians should better understand the ways in which Black women engage with their bodies when under stress.

The chronic stressors that Black women experience affect both their physical and mental health. As stated, Black women's rates of morbidity exceed that for Black men and White people (Jung, 1997; National Centers for Health Statistics, 2012; Pascoe & Richman, 2009; Penedo & Dahn, 2005; Taylor & Holden, 2009). Therefore, there is a fundamental need to stay attuned to the experiences and the socio-cultural messages Black women are encouraged to internalize. In this attunement, clinicians can be advocates for Black women and develop treatment plans and programs to meet their biopsychosocial needs in a way that is culturally informed and inclusive.

## Future Research

The current study provided additional context for understanding the health disparities that negatively affect Black women. Future research should continue to consider the biological, psychological, and social processes of health engagement for Black women. More specifically, researchers should examine factors that disproportionately affect Black women. In examination of these factors, scholars may be able to identify relationships between these elements and health-related behaviors and outcomes.

The current study investigated gendered racism in relation to health behaviors. Future research should also investigate the extent to which similar health behaviors are related to Black women's health outcomes, which was not an explicit focus of the current study. Also, in the current study, racial and womanist identities were examined as potential mediating factors in the biopsychosocial stress cycle. Researchers should expand their consideration of racial and gender intrapsychic processes as potential factors affecting the relationship between gendered racism and health engagement. Hopefully, with greater focus on Black women's internal experiences, researchers, scholars, and practitioners can work to (a) advocate for health-related resources, (b) promote Black women's psychological well-being, and (c) reduce the health disparities that negatively affect Black women overall.

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# Appendix A: Study Measures

***Demographic questionnaire***

**Gender:** **Age: _____**

❒ Male

❒ Female

❒ Other _____

**Marital Status:**

❒ Single ❒ Divorced

❒ Widowed

❒ Married ❒ Separated

❒ Domestic Partner

❒ Other: _____

**Sexual Orientation:**

❒ Heterosexual or Straight

❒ Gay or Lesbian

❒ Bisexual

❒ Transgender:

- ❒ Male to Female
- ❒ Female to Male

❒ Other: _____

**Height: _____**

**Weight: _____**

**In regards to your body weight, do you consider yourself?**

❒ Underweight ❒ Normal weight

❒ Overweight ❒ Obese

**How satisfied are you with your weight?**

❒ Very dissatisfied

❒ Mostly dissatisfied

❒ Neither satisfied nor dissatisfied

❒ Mostly satisfied

❒ Very satisfied

**Are you currently pregnant or breastfeeding:**

❒ Yes

❒ No

***What is your highest completed level of education?***

❒ *No formal education*

❒ Elementary (1-5)

❒ Middle School

❒ Some High School

❒ High School (9-12)

❒ Some college (no degree)

❒ *BA/BS*

❒ MA/MS/MBA

❒ Ph.D. or Ed.D.

❒ Professional (M.D. or J.D)

❒ Other: _____

**Generation status:**

❒ I was born in another country

❒ *At least one of my parents were born in another country*

❒At least one of my grandparents were born in another country

❒Me, my parents, and grandparents were born in the U.S.

❒ Other: _____

**Which of the following best describes your income level?**

❒ Low income

❒ Middle income

❒ Upper middle income

❒ Upper class

**What is your race/ethnicity? Please check all that apply.**

❒ Black/African American
- ❒ African American
- ❒ Afro-Caribbean
- ❒ African
- ❒ Black Hispanic

❒ Latina/Hispanic

❒ Asian/Asian American/Pacific Islander

❒ Native American/American Indian

❒ White/Not Hispanic

❒ Other. Please specify: _____

*We are interested in your experiences with gendered racism. As you answer the questions below, please think about your ENTIRE LIFE, from when you were a child to the present. For each question, please circle the number that best captures the things that have happened to you. Please use the scale below.*

***Gendered Racism Scale***

| | |
|---|---|
| 1 | If this has NEVER happened to you |
| 2 | If this has happened ONCE IN A WHILE (less than 10% of the time) |
| 3 | If this has happened SOMETIMES (10-25% of the time) |
| 4 | If this has happened A LOT (26-49% of the time) |
| 5 | If this has happened MOST OF THE TIME (50-70% of the time) |
| 6 | If this has happened ALMOST ALL OF THE TIME (more than 70% of the time) |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. How many times have you been treated unfairly by teachers or professors because you are a Black woman? | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremel y (6) |
| | | | | | | |
| 2. How many times have you been treated unfairly by your employers, bosses and supervisors because you are a Black woman? | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremel y (6) |
| | | | | | | |
| 3. How many times have you been treated unfairly by your coworkers, fellow students or colleagues because you are a Black woman? | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremel y (6) |
| | | | | | | |
| 4. How many times have you been treated unfairly by people in service jobs (store clerks, waiters, bartenders, bank tellers and others) because you are a Black woman? | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |

| | | | | | | |
|---|---|---|---|---|---|---|
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremely (6) |
| | | | | | | |
| 5. How many times have you been treated unfairly by strangers because you are a Black woman? | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremely (6) |
| | | | | | | |
| 6. How many times have you been treated unfairly by people in helping jobs (doctors, nurses, psychiatrists, case workers, dentists, school counselors, therapists, social workers and others) because you are a Black woman? | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremely (6) |
| | | | | | | |
| 7. How many times have you been treated unfairly by neighbors because you are a Black woman? | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremely (6) |
| | | | | | | |
| 8. How many times have you been treated unfairly by institutions (schools, universities, law firms, the police, the courts, Department of Social Services, the Unemployment Office or others) because you are a Black woman? | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremely (6) |
| | | | | | | |
| 9. How many times have you been accused or suspected of doing something wrong (such as stealing, cheating, not doing your share of the work, or breaking the law) because you are a Black woman? | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |

| | | | | | | |
|---|---|---|---|---|---|---|
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremely (6) |
| | | | | | | |
| 10. How many times have people misunderstood your intentions or motives because you are a Black woman? | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremely (6) |
| | | | | | | |
| 11. How many times have people failed to show you the respect you deserve because you are a Black woman? | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremely (6) |
| | | | | | | |
| 12. How many times have you been made fun of, picked on, pushed, shoved, hit or threatened with harm because you are a Black woman? | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremely (6) |
| | | | | | | |
| 13. How many times has someone made inappropriate or unwanted sexual advances to you because you are a Black woman? | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremely (6) |
| | | | | | | |
| 14. How many times have you been treated unfairly by a romantic partner because you are a Black woman? | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremely (6) |
| | | | | | | |
| 15. How many times have you had to take drastic steps (such as filing a grievance, filing a lawsuit, quitting your | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |

| | | | | | | |
|---|---|---|---|---|---|---|
| job, moving away, and other actions) to deal with something that was done to you because you are a Black woman? | | | | | | |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremely (6) |
| | | | | | | |
| 16. How many times have you been denied a raise, a promotion, tenure, a good assignment, a job, or other such thing at work that you deserved because you are a Black woman? | Never | Once in a while | Some-times | A lot | Most of the time | Almost all of the time |
| How many times in your entire life? | 1 | 2 | 3 | 4 | 5 | 6 |
| How stressful was this for you? | Not at all (1) | 2 | 3 | 4 | 5 | Extremely (6) |

*This questionnaire is designed to measure people's social and political attitudes. There are no right or wrong answers. Use the scale to respond to the items below by circling the number that best describes how you feel*.

***Black Racial Identity Attitudes Scale- Revised***

| | | Strongly Disagree | Disagree | Uncertain | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| 1 | I believe that being Black is a positive experience. | 1 | 2 | 3 | 4 | 5 |
| 2 | I know through my personal experiences what being Black in America means. | 1 | 2 | 3 | 4 | 5 |
| 3 | I am increasing my involvement in Black activities because I don't feel comfortable in White environments. | 1 | 2 | 3 | 4 | 5 |
| 4 | I believe that large numbers of Blacks are untrustworthy. | 1 | 2 | 3 | 4 | 5 |
| 5 | I feel an overwhelming attachment to Black people. | 1 | 2 | 3 | 4 | 5 |
| 6 | I involve myself in causes that will help all oppressed people. | 1 | 2 | 3 | 4 | 5 |
| 7 | A person's race does not influence how comfortable I feel when I am with her or him. | 1 | 2 | 3 | 4 | 5 |
| 8 | I believe that White people look and express themselves better than Blacks. | 1 | 2 | 3 | 4 | 5 |
| 9 | I feel uncomfortable when I am around Black people. | 1 | 2 | 3 | 4 | 5 |
| 10 | I feel good about being Black, but do not limit myself to Black activities. | 1 | 2 | 3 | 4 | 5 |
| 11 | When I am with people I trust, I often find myself using slang words to refer to White people. | 1 | 2 | 3 | 4 | 5 |
| 12 | I believe that being Black is a negative experience. | 1 | 2 | 3 | 4 | 5 |
| 13 | I believe that certain aspects of "the Black experience" apply to me, and others do not. | 1 | 2 | 3 | 4 | 5 |
| 14 | I frequently confront the system and the (White) man. | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 15 | I constantly involve myself in Black political and social activities (such as art shows, political meetings, Black theater, and so forth). | 1 | 2 | 3 | 4 | 5 |
| 16 | I involve myself in social action and political groups even if there are no other Blacks involved. | 1 | 2 | 3 | 4 | 5 |
| 17 | I believe that Black people should learn to think and experience life in ways that are similar to White people's ways. | 1 | 2 | 3 | 4 | 5 |
| 18 | I believe that the world should be interpreted from a Black or Afrocentric perspective. | 1 | 2 | 3 | 4 | 5 |
| 19 | I am changing my style of life to fit my new beliefs about Black people. | 1 | 2 | 3 | 4 | 5 |
| 20 | I feel excitement and joy in Black surroundings. | 1 | 2 | 3 | 4 | 5 |
| 21 | I believe that Black people came from a strange, dark, and uncivilized continent. | 1 | 2 | 3 | 4 | 5 |
| 22 | People, regardless of their race, have strengths and limitations. | 1 | 2 | 3 | 4 | 5 |
| 23 | I find myself reading a lot of Black literature and thinking about being Black. | 1 | 2 | 3 | 4 | 5 |
| 24 | I feel guilty or anxious about some of the things I believe about Black people. | 1 | 2 | 3 | 4 | 5 |
| 25 | I believe that a Black person's most effective weapon for solving problems is to become part of the White person's world. | 1 | 2 | 3 | 4 | 5 |
| 26 | I speak my mind about injustices to Black people regardless of the consequences (such as being kicked out of school, disappointing my parents, being exposed to danger). | 1 | 2 | 3 | 4 | 5 |
| 27 | I limit myself to Black activities as much as I can. | 1 | 2 | 3 | 4 | 5 |
| 28 | I am determined to find my Black identity. | 1 | 2 | 3 | 4 | 5 |
| 29 | I believe that White people are more intelligent than Blacks. | 1 | 2 | 3 | 4 | 5 |
| 30 | I believe that I have many strengths because I am Black. | 1 | 2 | 3 | 4 | 5 |
| 31 | I feel that Black people do not have as much to be proud of as White people. | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 32 | Most Black people I know are failures. | 1 | 2 | 3 | 4 | 5 |
| 33 | I believe that most White people should feel guilty about the way they have treated Blacks in the past. | 1 | 2 | 3 | 4 | 5 |
| 34 | White people can't be trusted. | 1 | 2 | 3 | 4 | 5 |
| 35 | In today's society if Black people don't achieve, they have only themselves to blame. | 1 | 2 | 3 | 4 | 5 |
| 36 | The most important thing about me is that I am Black. | 1 | 2 | 3 | 4 | 5 |
| 37 | Being Black just feels natural to me. | 1 | 2 | 3 | 4 | 5 |
| 38 | Other Black people have trouble accepting me because my life experiences have been so different from their experiences. | 1 | 2 | 3 | 4 | 5 |
| 39 | Black people who have any White people's blood should feel ashamed of it. | 1 | 2 | 3 | 4 | 5 |
| 40 | Sometimes, I wish I belonged to the White race. | 1 | 2 | 3 | 4 | 5 |
| 41 | The people I respect most are White. | 1 | 2 | 3 | 4 | 5 |
| 42 | A person's race usually is not important to me. | 1 | 2 | 3 | 4 | 5 |
| 43 | I feel anxious when White people compare me to other members of my race. | 1 | 2 | 3 | 4 | 5 |
| 44 | I can't feel comfortable with either Black people or White people. | 1 | 2 | 3 | 4 | 5 |
| 45 | A person's race has little to do with whether or not he/she is a good person. | 1 | 2 | 3 | 4 | 5 |
| 46 | When I am with Black people, I pretend to enjoy things they enjoy. | 1 | 2 | 3 | 4 | 5 |
| 47 | When a stranger who is Black does something embarrassing in public, I get embarrassed. | 1 | 2 | 3 | 4 | 5 |
| 48 | I believe that a Black person can be close friends with a White person. | 1 | 2 | 3 | 4 | 5 |
| 49 | I am satisfied with myself. | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 50 | I have a positive attitude about myself because I am Black. | 1 | 2 | 3 | 4 | 5 |

*This questionnaire is designed to measure people's social and political attitudes about men and women in society. There are no right or wrong answers. Use the scale to respond to the items below by circling the number that best describes how you feel.*

***Womanist Identity Attitudes Scale***

| | | Strongly Disagree | Disagree | Uncertain | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| 1 | In general, I believe that men are superior to women. | 1 | 2 | 3 | 4 | 5 |
| 2 | I try not to take part in activities that make me appear to be un-lady like. | 1 | 2 | 3 | 4 | 5 |
| 3 | I believe that being a woman has caused me to have many strengths. | 1 | 2 | 3 | 4 | 5 |
| 4 | Women should not blame men for their problems. | 1 | 2 | 3 | 4 | 5 |
| 5 | I would feel incomplete if I did not marry. | 1 | 2 | 3 | 4 | 5 |
| 6 | I don't know whether being a woman is an asset or a deficit. | 1 | 2 | 3 | 4 | 5 |
| 7 | I feel more comfortable being around men than I do being around women | 1 | 2 | 3 | 4 | 5 |
| 8 | I feel unable to involve myself in men's activities, and I am increasing my involvement in activities involving women. | 1 | 2 | 3 | 4 | 5 |
| 9 | I am insulted when people call me a "feminist". | 1 | 2 | 3 | 4 | 5 |
| 10 | I am comfortable wherever I am. | 1 | 2 | 3 | 4 | 5 |
| 11 | Maybe I can learn something from women. | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 12 | Sometimes I think men are superior and sometimes I think they're inferior to women. | 1 | 2 | 3 | 4 | 5 |
| 13 | Women usually don't have anything intelligent to say about politics. | 1 | 2 | 3 | 4 | 5 |
| 14 | In general, women have not contributed much to American society. | 1 | 2 | 3 | 4 | 5 |
| 15 | When I think about how men have treated women, I feel an overwhelming anger. | 1 | 2 | 3 | 4 | 5 |
| 16 | People, regardless of their sex, have strengths and limitations. | 1 | 2 | 3 | 4 | 5 |
| 17 | A woman's most important role in life is to provide emotional support for others. | 1 | 2 | 3 | 4 | 5 |
| 18 | Sometimes I am proud of belonging to the female sex and sometimes I am ashamed of it. | 1 | 2 | 3 | 4 | 5 |
| 19 | Sometimes, I am embarrassed to be the sex I am. | 1 | 2 | 3 | 4 | 5 |
| 20 | I am determined to find out more about the female sex. | 1 | 2 | 3 | 4 | 5 |
| 21 | I use the word "girl" to describe myself and/or my female friends. | 1 | 2 | 3 | 4 | 5 |
| 22 | Being a member of the female sex is a source of pride to me. | 1 | 2 | 3 | 4 | 5 |
| 23 | Thinking about my values and beliefs takes up a lot of my time. | 1 | 2 | 3 | 4 | 5 |
| 24 | I do not think I should feel positively about people just because they belong to the same sexual group as I do. | 1 | 2 | 3 | 4 | 5 |
| 25 | A woman's appearance is her most important asset. | 1 | 2 | 3 | 4 | 5 |
| 26 | I would have accomplished more in this life if I had been born a man. | 1 | 2 | 3 | 4 | 5 |
| 27 | Most men are insensitive. | 1 | 2 | 3 | 4 | 5 |
| 28 | Women and men have much to learn from each other. | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 29 | Women who think and act like men are a disgrace. | 1 | 2 | 3 | 4 | 5 |
| 30 | I'm not sure how I feel about myself. | 1 | 2 | 3 | 4 | 5 |
| 31 | Sometimes I wonder how much of myself I should give up for the sake of helping minorities. | 1 | 2 | 3 | 4 | 5 |
| 32 | Men are more attractive than women. | 1 | 2 | 3 | 4 | 5 |
| 33 | I try to do only those things that increase my femininity. | 1 | 2 | 3 | 4 | 5 |
| 34 | I reject all male values. | 1 | 2 | 3 | 4 | 5 |
| 35 | Men have some customs I enjoy. | 1 | 2 | 3 | 4 | 5 |
| 36 | Men are difficult to understand. | 1 | 2 | 3 | 4 | 5 |
| 37 | It embarrasses me when other women act unfeminine. | 1 | 2 | 3 | 4 | 5 |
| 38 | I wonder if I should feel a kinship with all minority group people. | 1 | 2 | 3 | 4 | 5 |
| 39 | Women should learn to think and act like men. | 1 | 2 | 3 | 4 | 5 |
| 40 | My most important goal in life is to fight the oppression of women. | 1 | 2 | 3 | 4 | 5 |
| 41 | My most important goal in life is to raise healthy children. | 1 | 2 | 3 | 4 | 5 |
| 42 | I enjoy being around people regardless of their sex. | 1 | 2 | 3 | 4 | 5 |
| 43 | I find myself replacing old friends with new ones who share my beliefs about women. | 1 | 2 | 3 | 4 | 5 |
| 44 | The burden of living up to society's expectations of women is sometimes more than I can bear. | 1 | 2 | 3 | 4 | 5 |
| 45 | I limit myself to male activities. | 1 | 2 | 3 | 4 | 5 |
| 46 | I don't trust women. | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 47 | Both sexual groups have some good people and some bad people. | 1 | 2 | 3 | 4 | 5 |
| 48 | I feel anxious about some of the things I feel about women. | 1 | 2 | 3 | 4 | 5 |
| 49 | I feel like am betraying my sex when I take advantage of the opportunities available to me in the male world. | 1 | 2 | 3 | 4 | 5 |
| 50 | I want to know more about the female culture. | 1 | 2 | 3 | 4 | 5 |
| 51 | I think women and men differ from each other in some ways, but neither group is superior. | 1 | 2 | 3 | 4 | 5 |
| 52 | I find that I function better when I am able to view men as individuals. | 1 | 2 | 3 | 4 | 5 |
| 53 | I limit myself to activities involving women. | 1 | 2 | 3 | 4 | 5 |
| 54 | Most men are untrustworthy. | 1 | 2 | 3 | 4 | 5 |
| 55 | American society would be better off if it were based on the cultural values of women. | 1 | 2 | 3 | 4 | 5 |

***International Physical Activities Questionnaire***
(Revised for current study)

1. During the **last 7 days**, on how many days did you do **vigorous** physical activities like heavy lifting, digging, aerobics, or fast bicycling?

❒ no days ❒ 1 day ❒ 2 days ❒ 3 days ❒ 4 days ❒ 5 days ❒ 6 days ❒ 7 days

2. How much time did you usually spend doing **vigorous** physical activities on one of those days?

❒ no time ❒ less than 15 minutes ❒ 30 minutes ❒ 45 minutes ❒ 60 minutes ❒ 1 hour and 15 minutes ❒ 1 hour and 30 minutes ❒ 1 hour and 45 minutes
❒ two or more hours

3. During the **last 7 days**, on how many days did you do **moderate** physical activities like carrying light loads, bicycling at a regular pace, or doubles tennis? Do not include walking.

❒ no days ❒ 1 day ❒ 2 days ❒ 3 days ❒ 4 days ❒ 5 days ❒ 6 days ❒ 7 days

4. How much time did you usually spend doing **moderate** physical activities on one of those days?

❒ no time ❒ less than 15 minutes ❒ 30 minutes ❒ 45 minutes ❒ 60 minutes ❒ 1 hour and 15 minutes ❒ 1 hour and 30 minutes ❒ 1 hour and 45 minutes
❒ two or more hours

5. During the **last 7 days**, on how many days did you **walk** for at least 10 minutes at a time?

❒ no days ❒ 1 day ❒ 2 days ❒ 3 days ❒ 4 days ❒ 5 days ❒ 6 days ❒ 7 days

6. How much time did you usually spend **walking** on one of those days?

❒ no time ❒ less than 15 minutes ❒ 30 minutes ❒ 45 minutes ❒ 60 minutes ❒ 1 hour and 15 minutes ❒ 1 hour and 30 minutes ❒ 1 hour and 45 minutes
❒ two or more hours

7. During the **last 7 days**, how much time did you spend sitting (including time spent sitting at a desk, visiting friends, reading, or sitting or lying down to watch tv) on a **week day**?

❒ less than 1 hour ❒ two hours ❒ 3 hours ❒ 4 hours ❒ 5 hours ❒ 6 hours
minutes
❒ 7 hours ❒ 8 or more hours

*Please read the following statements and indicate your level of agreement by circling the number that best applies.*

***Three-Factor Eating Questionnaire-Revised***

| | | Definitely False | Mostly False | Mostly True | Definitely True |
|---|---|---|---|---|---|
| 1 | I deliberately take small helpings as a means of controlling my weight. | 1 | 2 | 3 | 4 |
| 2 | I consciously hold back at meals in order not to gain weight. | 1 | 2 | 3 | 4 |
| 3 | I do not eat some foods because they make me fat. | 1 | 2 | 3 | 4 |
| 4 | When I smell a sizzling steak or a juicy piece of meat, I find it very difficult to keep from eating, even if I have just finished a meal. | 1 | 2 | 3 | 4 |
| 5 | Sometimes when I start eating, I just can't seem to stop. | 1 | 2 | 3 | 4 |
| 6 | Being with someone who is eating often makes me hungry enough to eat also. | 1 | 2 | 3 | 4 |
| 7 | When I see a real delicacy, I often get so hungry that I have to eat right away. | 1 | 2 | 3 | 4 |
| 8 | I get so hungry that my stomach often seems like a bottomless pit. | 1 | 2 | 3 | 4 |
| 9 | I am always hungry so it is hard for me to stop eating before I finish the food on my plate. | 1 | 2 | 3 | 4 |

| | | | | | |
|---|---|---|---|---|---|
| 10 | I am always hungry enough to eat at any time. | 1 | 2 | 3 | 4 |
| 11 | When I feel anxious, I find myself eating. | 1 | 2 | 3 | 4 |
| 12 | When I feel blue, I often overeat. | 1 | 2 | 3 | 4 |
| 13 | When I feel lonely, I console myself by eating. | 1 | 2 | 3 | 4 |
| 14 | How frequently do you avoid `stocking up' on tempting foods? | Almost Seldom | Seldom | Usually | Almost Always |
| 15 | How often do you feel hungry? | Only at mealtimes | Sometimes between meals | Often between meals | Almost Always |
| 16 | Do you go on eating binges though you are not hungry? | Never | Rarely | Sometimes | At least once a week |
| 17 | How likely are you to consciously eat less than you want? | Unlikely | Slightly Likely | Moderately Likely | Very Likely |
| 18 | On a scale of 1 to 8, where 1 means no restraint in eating (eating whatever you want, whenever you want it) and 8 means total restraint (constantly limiting food intake and never `giving in'), what number would you give yourself? | | | | |

# Appendix B: Mediation Tables

*Racial Identity Mediation Table*

| Analysis and Predictor Variable | B | SE | $R^2$ | t | F | Criterion Variable |
|---|---|---|---|---|---|---|
| Analysis 1 | | | | | | |
| Gendered Racism | -.15 | .05 | .051 | -2.85 | 8.12** | Emotional Eating |
| | .12 | .05 | .037 | 2.40 | 5.78* | Uncontrolled Eating |
| | .07 | .05 | .017 | 1.62 | 2.64 | Cognitive Restraint |
| | 7.90 | 3.40 | .035 | 2.32 | 5.40* | Physical Activity |
| Analysis 2 | | | | | | |
| Gendered Racism | .03 | .02 | .016 | 1.57 | 2.47 | BRIAS Preencounter |
| | .02 | .02 | .011 | 1.30 | 1.69 | BRIAS Post-Encounter |
| | .09 | .02 | .104 | 4.19 | 17.51** | BRIAS Immersion |
| | .02 | .01 | .016 | 1.58 | 2.50 | BRIAS Emersion |
| | -.00 | .01 | .000 | -.26 | .07 | BRIAS Internalization |
| Analysis 3 | | | | | | |
| Gendered Racism | -.15 | .06 | .047 | -2.69 | 7.23** | Emotional Eating |
| | .10 | .05 | .027 | 2.02 | 4.08* | Uncontrolled Eating |
| | .06 | .05 | .012 | 1.31 | 1.71 | Cognitive Restraint |
| | 5.77 | 3.58 | .017 | 1.61 | 2.60 | Physical Activity |
| BRIAS Preencounter | -.15 | .31 | .002 | -.49 | .24 | Emotional Eating |
| | .02 | .26 | .000 | .07 | .00 | Uncontrolled Eating |
| | -.01 | .28 | .000 | -.02 | .00 | Cognitive Restraint |
| | 33.79 | 20.18 | .019 | 1.68 | 2.81 | Physical Activity |
| BRIAS Post-Encounter | -1.17 | .47 | .040 | -2.46 | 6.07* | Emotional Eating |
| | 1.61 | .41 | .098 | 3.98 | 15.81** | Uncontrolled Eating |
| | -.36 | .42 | .005 | -.84 | .70 | Cognitive Restraint |
| | -3.98 | 30.96 | .000 | -.13 | .02 | Physical Activity |
| BRIAS Immersion | .42 | .26 | .017 | 1.58 | 2.51 | Emotional Eating |
| | -.26 | .35 | .009 | -1.13 | 1.29 | Uncontrolled Eating |
| | .16 | .24 | .003 | .70 | .49 | Cognitive Restraint |
| | 14.63 | 17.21 | .005 | .85 | .72 | Physical Activity |
| BRIAS Emersion | .75 | .41 | .022 | -1.83 | 3.34 | Emotional Eating |
| | .72 | .35 | .028 | 2.05 | 4.18 | Uncontrolled Eating |
| | .10 | .37 | .000 | .27 | .07 | Cognitive Restraint |
| | -8.87 | 26.96 | .001 | -.33 | .12 | Physical Activity |
| BRIAS Internalization | .02 | .34 | .000 | .06 | .00 | Emotional Eating |
| | -.22 | .29 | .004 | -.76 | .58 | Uncontrolled Eating |
| | .09 | .31 | .001 | -.29 | .08 | Cognitive Restraint |
| | 21.96 | 22.40 | .007 | .98 | .96 | Physical Activity |

Note: * $p < .05$. ** $p < .01$.

*Womanist Identity Mediation Table*

| Analysis and Predictor Variable | B | SE | $R^2$ | t | F | Criterion Variable |
|---|---|---|---|---|---|---|
| Analysis 1 | | | | | | |
| Gendered Racism | -.15 | .05 | .051 | -2.85 | 8.12** | Emotional Eating |
| | .12 | .05 | .037 | 2.40 | 5.78* | Uncontrolled Eating |
| | .07 | .05 | .017 | 1.62 | 2.64 | Cognitive Restraint |
| | 7.90 | 3.40 | .035 | 2.32 | 5.40* | Physical Activity |
| Analysis 2 | | | | | | |
| Gendered Racism | .02 | .03 | .004 | .79 | .62 | WIAS Preencounter |
| | .03 | .01 | .047 | 2.74 | 7.48** | WIAS Encounter |
| | .08 | .02 | .064 | 3.23 | 10.40** | WIAS Imm/Emersion |
| | .01 | .01 | .002 | .61 | .40 | WIAS Internalization |
| Analysis 3 | | | | | | |
| Gendered Racism | -.11 | .06 | .026 | -1.99 | 3.97* | Emotional Eating |
| | .06 | .05 | .010 | 1.24 | 1.54 | Uncontrolled Eating |
| | .09 | .05 | .025 | 1.95 | 3.80 | Cognitive Restraint |
| | 6.21 | 1254.56 | .021 | 1.76 | 3.08 | Physical Activity |
| WIAS Preencounter | .05 | .19 | .000 | .27 | .07 | Emotional Eating |
| | .09 | .17 | .002 | .54 | .29 | Uncontrolled Eating |
| | -.21 | .17 | .011 | -1.27 | 1.61 | Cognitive Restraint |
| | -3.03 | 12.53 | .000 | -.24 | .06 | Physical Activity |
| WIAS Encounter | -.63 | .60 | .007 | -1.05 | 1.10 | Emotional Eating |
| | .62 | .53 | .009 | 1.16 | 1.35 | Uncontrolled Eating |
| | .25 | .58 | .002 | .48 | .23 | Cognitive Restraint |
| | -44.93 | 38.67 | .009 | -1.16 | 1.35 | Physical Activity |
| WIAS Imm/Emersion | -.32 | .28 | .009 | -1.17 | 1.38 | Emotional Eating |
| | .48 | .24 | .026 | 1.98 | 3.92* | Uncontrolled Eating |
| | -.24 | .24 | .007 | -1.01 | 1.03 | Cognitive Restraint |
| | 36.28 | 17.81 | .027 | 2.04 | 4.15* | Physical Activity |
| WIAS Internalization | -.03 | .36 | .000 | -.08 | .01 | Emotional Eating |
| | .08 | .32 | .000 | .26 | .07 | Uncontrolled Eating |
| | -.30 | .31 | .006 | -.94 | .88 | Cognitive Restraint |
| | 29.95 | 23.43 | .011 | 1.28 | 1.63 | Physical Activity |

Note: * $p < .05$. ** $p < .01$.