

THE RELATIONSHIP BETWEEN RACISM-RELATED STRESS AND BINGE EATING  
AMONG BLACK FEMALE STUDENTS IN GRADUATE AND PROFESSIONAL  
PROGRAMS OF STUDY: EXAMINING THE ROLE OF DEPRESSION AS A MEDIATOR

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**Abstract**

The Relationship between Racism-Related Stress and Binge Eating among Black Female Students in Graduate and Professional Programs of Study: Examining the Role of Depression as a Mediator

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Anti-Black racism is a social toxin that not only violently affects people's individual and collective access to resources, but significantly impacts the quality of life of those who are targeted, including the onset and maintenance of adverse psychological and physical health outcomes, such as depression and binge eating. Research finds that across the United States, experiences of racism can lead to racism-related stress, which is conceptualized as the cumulative psychological and emotional distress that can result from racial discrimination.

Centering Black women in this narrative, this study explores how institutionalized racism-related stress in academia impacts the health and wellbeing of Black female graduate and professional studies students across the United States. Building upon existing research, the current study examines levels of institutionalized racism-related stress, in addition to gendered racism-related stress, reported by a sample of Black women in graduate and professional programs of study. Further, this study explores the correlational relationships between racism-related stress, depressive symptomatology, and binge eating behaviors among this population. As previous literature demonstrates significant associations between these variables as pairs, it was

hypothesized that all three constructs (racism-related stress, depressive symptomatology, and binge eating) would be positively correlated among the participant sample. Finally, the current study extended previous research by testing depressive symptomatology as a mediator in the relationship between racism-related stress and binge eating.

Participants were self-identified cisgender Black women currently enrolled in a graduate or professional program of study in the United States recruited through social media and snowball sampling. Respondents completed an anonymous online questionnaire that included a measure of racism-related stress related to being a student of color in higher education; a measure that assesses for the presence and severity of depressive symptomatology; a screener that assesses for the presence and severity of binge eating behaviors; and a demographic questionnaire. Through open-ended responses, participants also shared insight on the ways that their identity as Black women shape how they are treated by others at their academic institution, in addition to how these experiences impact their health and wellbeing.

Results supported the prediction of a significant and positive relationship between racism-related stress and depressive symptomatology, while the remaining hypotheses were not supported. However, qualitative data highlighted critical insight on the dynamic experiences of Black female graduate students. Prominent emergent themes included participants need to combat negative stereotypes often assigned to Black women; feelings of tokenization in classroom settings; anti-Black racism and discrimination from peers and professors; and navigating white sensitivity on campus. Participants also reported that these experiences impact their health and wellbeing in a variety of ways, including general feelings of emotional distress; anxiety; and somatic symptoms, including bodily aches and pains.

Implications for future research are discussed, including the need for relevant and appropriate mental health assessments and support services that target the intersectional racialized and gendered experiences of Black women. It is recommended that academic institutions work strategically to address anti-Black racism in graduate and professional programs of study to holistically strengthen campus-wide support for this often marginalized population in predominantly white college settings.

*Keywords:* institutional racism, racism-related stress, depression, binge eating, Black female graduate students

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## Chapter One: Introduction

The current study examines the link between gendered racism-related stress experienced by Black women and adverse mental health outcomes, specifically the presence of binge eating and depressive symptomatology. This study focuses on racism-related stress that is associated with Black women's experiences in graduate and professional programs of study. As noted in previous literature, institutionalized racism and related challenges in academia present as unique stressors for students of color in historically and predominantly white colleges and universities (e.g., Cokley, McClain, Enciso, & Martinez, 2013). Research finds that as Black students navigate daily racial assault and discrimination, in both explicit and implicit variations, they are susceptible to the development of *racial battle fatigue*, the cumulative emotional, psychological, and physiological distress that is associated with combatting racial discrimination (Smith, Allen, & Danley, 2007). Notably, there is a dearth of literature that centers Black graduate students in mental health research. Although data is finding that graduate students across the United States are facing increased mental health issues, including high rates of depression and anxiety (e.g., Evans, Bira, Gastelum, Weiss, & Vanderford, 2018), few studies have explored mental health concerns among Black graduate students, and particularly, Black female graduate students. The current study centers the mental health of this population exclusively, specifically among a diverse sample of Black women pursuing graduate and professional program of study degrees across the United States.

For Black women, experiences of gendered racism and discrimination have been found to be associated with the onset of both binge eating (e.g., Assari, 2018; Clark, Anderson, Clark, & Williams, 1999; Harrington, Crowther, Henrickson, & Mickelson, 2006; Talleyrand, 2006;

Thompson, 1994, 1996) and depression (e.g., Cooper, Gonzales, Gallo, Rost, Meredith, Rubenstein, Wang, & Ford, 2003; Hoggard, Byrd, & Sellers, 2015, as cited in Taylor, Campbell, Thorpe, Whitfield, Nkimbeng & Szanton, 2017). Racism-related stress is uniquely linked to poor mental health outcomes for this population, as research finds that Black women who endorse greater frequency of racial discrimination in their lives are more likely to experience depressive symptomatology and binge eating behaviors. Using a Black feminist frame, the current study seeks to develop continued understanding on the relationship pathway between anti-Black gendered racism and these specific areas of Black women mental health.

This study extends prior, albeit limited, research that explores the experiences of Black women and their eating behaviors. Black women have been largely excluded from disordered eating literature, as eating disorders are historically presumed to only impact young, middle-class, white women (e.g., Harrington, Crowther, & Shipherd, 2010; Striegel-Moore, Wilfley, Pike, Dohm, & Fairburn, 2000). Yet increasing literature is finding that Black women are in fact impacted by eating problems, particularly binge eating and related challenges. Even prior to the addition of BED as a diagnosable mental illness in the DSM-5, binge eating was cited as the most prevalent eating problem among Black women in the United States (e.g., Striegel-Moore et al., 2003; Taylor, Caldwell, Baser, Faison, & Jackson, 2007). Building upon Talleyrand's (2006) research that suggests contextual intersectional stressors associated with eating problems among Black women, this study also seeks to explore the functionality of binge eating in the lives of Black women. As suggested by Talleyrand (2006), gendered racism is a unique stressor that may contribute to Black women's development and maintenance of binge eating. Because Black women experience oppression at the intersection of racism and sexism (i.e., gendered racism), binge eating is thought to be connected to this dual oppression and serves as a mechanism for

coping with environmental distress and trauma. Likewise, classism may also present as a risk factor for binge eating among Black women. Thompson's (1994) qualitative interviews with Black women who binge eat revealed that bingeing was used as a coping strategy to emotionally regulate from the distress associated with poverty and classism. The current study seeks to build upon this research, by examining binge eating behaviors among Black women not as deficits or pathologies in themselves, but manifestations of societal violence and harm enacted against Black women, namely experienced through institutionalized racism in academia.

Pulling together various domains of literature, the current study explores the associations between racism-related stress, binge eating, and depression among Black women in graduate and professional programs of study across the United States. Among this population, this study will 1) explore levels of reported racism-related stress in relation to being a Black student in their current graduate or professional program of study; 2) assess the relationships between racism-related stress, depressive symptomatology, and binge eating behaviors; and 3) examine depressive symptomatology as a possible mediator between racism-related stress and binge eating among this sub-group of Black women. To the author's knowledge, this is the first study that examines the potential mediating role of depression on the relationship between racism-related stress and binge eating. As discussed by Connolly (2011), continued research is needed on models (e.g., mediators, moderators) and outcomes for Black women that can help predict the variables that impact their health, as this will help increase our understanding of effective interventions that are holistic, racial justice-oriented, and culturally responsive to the unique experiences of this population.

The current study tests three primary hypotheses. First, it was generally predicted that participants would endorse high levels of institutionalized racism-related stress in relation to

being Black women in their current graduate and professional study program environments. Based on previous studies that find positive associations between racism-related stress and binge eating; racism-related stress and depressive symptomatology; and depressive symptomatology and binge eating among Black women, a second hypothesis predicted that all three study variables would be significantly and positively correlated, such that high levels of racism-related stress would predict high levels of depressive symptomatology and binge eating; and high levels of depressive symptomatology would predict high levels of binge eating (Figures 1-3). Finally, this study tested a third hypothesis that proposed a conceptual framework of the mediating pathway of depression on the relationship between racism-related stress and binge eating. As shown in Figure 4, this study predicted that levels of depressive symptomatology would possibly mediate the relationship between racism-related stress (dependent variable) and binge eating (independent variable), such that participants who reported higher levels of racism-related stress may also report increased depressive symptomatology (mediating variable), which could lead to their endorsement of increased binge eating behaviors.

## Chapter Two: Literature Review

### Racism: Definitions, Dimensions, Related Terminology

Racism is a deeply enmeshed poison that permeates through every level of United States society. Rooted in anti-Blackness and anti-Indigeneity, racism is a destructive, multigenerational ideological belief system that impacts all people, causing particular harm to those who are targets. As described by Harrell (2000), there are several working definitions of racism in research literature and scholarship (e.g., Bulhan, 1985; Essed, 1991; Jones, 1972; Ridley, 1995; Rothenberg, 1988; as cited in Harrell, 2000). Using the definition provided by Harrell (2000), racism is defined in this paper as:

“A system of dominance, power, and privilege based on racial group designations; rooted in the historical oppression of a group defined or perceived by dominant-group members as inferior, deviant, or undesirable; and occurring in circumstances where members of the dominant group create or accept their societal privilege by maintaining structures, ideology, values, and behavior that have the intent or effect of leaving nondominant-group members relatively excluded from power, esteem, status, and/or equal access to societal resources”.

Racism is based in a historical legacy of oppression and structured racial inequity by which members of the dominant racial group, namely white people and those that fall closer in proximity to “whiteness”, hold both *negative attitudes and beliefs* (i.e., stereotypes and prejudices), and *social power* which allows them to “codify and enforce their bigotry as societal norms” (Barndt, 1991; Feagin & Vera, 1995). Jones (1972) separates racism across a three category framework: (a) *individual racism*, defined as the personal belief in the inferiority of a racial/ethnic group (i.e., prejudice) and behaviors that perpetuate dominant and non-dominant position status (i.e., discrimination); (b) *institutional racism*, which refers to racialized systemic oppression and exploitation in social and political institutions (c) and *cultural racism*, to describe

ethnocentrism, preference for the culture, heritage, and values of one's own group (Scott, 2007) and status-quo maintenance, which is often enforced through acts of individual and institutional racism (as cited in Harrell, 2000). The current study explores racism across each of these domains as reported by Black female graduate and professional studies degree students in academic institutions.

Due to its multidimensional nature, racism can be further analyzed by way of how it presents and is experienced. Harrell (2000) identifies these contexts as *interpersonal*, *collective*, *cultural-symbolic*, and *sociopolitical*. In the *interpersonal context*, racism is experienced through direct, personal assault via verbal and nonverbal behavior and statements, or is experienced vicariously through witnessing discrimination or prejudice enacted towards someone else. For example, when a non-Black pedestrian crosses the street to avoid a Black pedestrian walking down the street due to irrational fear or suspicion of violence, this is racism at the interpersonal level. At this level, institutional and cultural racism enable individual racism through interpersonal behavior and targeting. (Harrell, 2000). In the *collective context*, racism is observed through large group inequalities and disparities, such as well documented racial inequities in "academic achievement, rates of unemployment, incidence and prevalence of disease, and criminal justice involvement and treatment" (Harrell, 2000). Collective racism is maintained through individual, institutional, and cultural racism, and is perpetuated through group systems and their ideological belief systems (Harrell, 2000). In the *cultural-symbolic context*, racism is observed through news and media entertainment, by which people of color (non-dominant groups) are described through negative imagery and representations. This context includes modes of art, literature, research, and scientific theory (Harrell, 2000) and emphasizes how racism is produced and communicated through the values of the dominant

group. For example, when Black neighborhoods are disproportionately depicted as crime-ridden and dangerous on the nightly news, this feeds into racism in the cultural-symbolic context. In the *sociopolitical context*, racism is maintained through political debates and government policies that base their rationale in racialized ideologies and discriminatory practice. Individual, institutional, and cultural racism often intersect here. For example, Harrell (2000) describes how personal biases (individual racism) influence voting selections; dominant group worldviews (cultural racism) impact political agendas; and racialized behavior norms in institutions (institutional racism) affect policies and practices within organizations.

Taken together, racism presents as a dynamic process that has impactful effects on the lives of people of color, or nondominant groups. From nationally exposed accounts of police brutality towards Black and Brown communities to the subtler realities of housing discrimination and unaffordability, racism is often a source of stress that holds significant implication for health and well-being. The current study will explore the relationship between racism-related stress, binge eating, and depression among Black women in graduate and professional programs of study. As grounding context, racism-related stress literature will be presented, in addition to Black feminism frameworks, that will further explore the relationship between these constructs.

### **Racism-Related Stress: Definitions, Types of Racial Stressors**

The term racism-related stress, or racial stress, is used to describe the relationship between an individual's perceived experiences of racism and racial discrimination, and the psychological distress that is associated with these experiences (University of Illinois, 2015). Racism-related stress is operationalized and defined in variation throughout research literature. Specifically defining racial stress as experienced by Black/African-American people, Utsey and Ponterotto (1996) define racial stress as "the occurrence and perceived magnitude of specific

events of racism and discrimination that Black/African-Americans potentially experience in their family lives.” More broadly, using Lazarus and Folkman’s (1984) concept of psychological stress as a foundation, Harrell (2000) defines racism-related stress as “the race-related transactions between individuals or groups and their environment that emerge from the dynamics of racism, and that are perceived to tax or exceed existing individual and collective resources or threaten well-being.” Harrell (2000) emphasizes that stress, as experienced by persons of color, must be examined as a function between the individual and their environment, particularly as it relates to their racial identity in interpersonal, collective, cultural-symbolic, and sociopolitical contexts.

Like racism, experiences of racism-related stress are multilayered and are best assorted into different types of stressors. Drawing connection to general stress literature, Harrell (2000) identifies six types of racism-related stress: (a) racism-related life events, (b) vicarious racism experiences, (c) daily racism micro-stressors, (d) chronic-contextual stress, (e) collective experiences of racism, and (f) transgenerational transmission of group traumas. While the current study will not assess for all six forms of racism-related stress, this section will identify each as they are described in the literature.

*Racism-related life event* stressors are described as impactful life experiences that occur at a specific moment in time and are time-limited. However, these stressors can produce subsequent events, and sometimes have lasting implications (Harrell, 2000). Racism-related life events can take place in numerous settings, including academia (e.g., a targeted racist comment towards a Black student in the classroom), health care (e.g., emergency room staff refusing to treat a Black client’s pain), and housing (e.g., Black homebuyers’ unjust rejection for a mortgage loan). While Harrell (2000) suggests that these stressors often occur infrequently, it should be

noted that many Black people indeed experience racism-related life events daily. For example, in 2013, CBS Miami released the story of Earl Sampson, a 28-year old Black man, who had experienced police harassment at least once a week (Golgowski, 2013). According to reports, Sampson had been stopped by Miami Gardens police more than 258 times over the past four years, which included more than 100 searches, 56 jail stays, and 62 arrests for trespassing at his place of employment (Golgowski, 2013). Like Sampson, many Black men, women, and children are frequently subjected to unwarranted police harassment, and other types of racism-related life events daily.

*Vicarious racism* can also occur through personal, direct events, but often manifests through the witnessing or report of someone else's experience of racism. Vicarious experiences of racism are significant in today's society, as people have greater access to widespread social media and news stories of racism and its violent effects – such as the video-recorded killings of Black people at the hands of law enforcement. Harrell (2000) emphasizes how vicarious racism can cause immense distress for persons of color, including “anxiety, anger, increased sense of danger/vulnerability, sadness, and other emotional and psychological reactions.” As described by Harrell (2000), these experiences often reveal critical information about where racism sits in society (Harrell, 2000), including the criminal “justice” system (or rather, criminal punishment system) and other societal institutions.

*Daily racism micro-stressors*, or racial microaggressions, is a term first used in the 1970s to describe the “subtle, stunning, often automatic, and non-verbal exchanges which are ‘put downs’” (Pierce, Carew, Pierce-Gonzalez, & Willis, 1978; as cited by Sue et al., 2007). The term has expanded to include “subtle insults (verbal, non-verbal, and/or visual) directed toward

people of color, often automatically or unconsciously” (Solórzano, Ceja, & Yosso, 2000; as cited in Sue et al., 2007) and more recently has been conceptualized as:

“Brief and commonplace daily verbal, behavioral, and environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative racial slights and insults that potentially have harmful or unpleasant psychological impact on the target person or group” (Solórzano, Ceja, & Yosso, 2000).

Racist daily micro-stressors are examples of everyday racism that people of color experience across environments and are integral to understanding modern racism and underlying race prejudice in today’s society (Harrell, 2000). As is explored in the current study, Black students often experience microaggressions in academia. For example, microaggressions towards Black students in academia can include instructors setting lower expectations for Black students’ academic performance, and people denying the experiences of Black students by questioning the credibility and validity of their stories (Portman, Bui, Ogaz, & Trevino, 2009). It is estimated that people can experience upwards of thousands of racist daily micro-stressors in their lifetime (Pierce, 1995; as cited in Harrell, 2000), which can result in the target feeling “demoralized, dehumanized, disrespected, or objectified” (Harrell, 2000). These are singular experiences that in accumulation can impact stress and general well-being. Racist daily micro-stressors promote exclusion and feelings of alienation in society.

*Chronic-contextual stressors* are driven by "social structures, political dynamics, and institutional racism" in the greater environment. These stressors can reflect the inadequate allocation of social resources and the limited opportunities made available for communities of color to thrive (Harrell, 2000). Examples of these stressors include *food deserts*, neighborhoods with limited access to affordable, healthy food options, or the poor textbooks and learning

supplies often provided in lower-income public school districts. As described by Harrell (2000), many chronic-contextual stressors are rooted in the interaction between race and class. Critical analysis of racism is needed to understand the dynamics of inadequate economic allocation. As explored in the current study, these stressors can also be present in spaces where people of color are poorly represented in number (e.g., historically and predominantly white colleges/universities) (Harrell, 2000).

*Collective experiences* are racial stressors held by groups by which individuals experience stress through “cultural-symbolic and sociopolitical manifestations of racism” (Harrell, 2000). This source of stress involves experiences of racism that impact collective members of an individual’s racial or ethnic group, without necessarily hearing or witnessing a specific target (i.e., vicarious racism). Examples include the rise of Islamophobic sentiments after September 11, 2001, and more recently, the mass deportations of Mexican and Central Americans and immigration sanctions on communities of color under the presidency of Donald Trump. Harrell (2000) emphasizes that people who share group membership and identification to those directly targeted by racism can also feel the impact on their general wellbeing.

Finally, *transgenerational transmission*, sometimes referred to as historical or transgenerational trauma, is racism-related stress that accounts for the layers of historical context that place communities of color in the United States. This history effects how communities of color uniquely relate to the United States and defines the stories and dialogue that are passed down intergenerationally (Harrell, 2000). Examples of transgenerational transmission of racism-related stress include the enslavement of Afrikan<sup>1</sup> people (coined post-traumatic slave syndrome by Joy DeGruy Leary, 2005), the mass killings and forced displacement of Indigenous Natives

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<sup>1</sup> Throughout this text, the word Afrika/n is spelled with the letter ‘k’ rather than a ‘c’, as this is the historically accurate and traditional spelling of the continent pre-European invasion and colonization.

from their lands, and the internment of Japanese American families during the Second World War (Root, 1993; as cited in Harrell, 2000). This source of traumatic stress is cumulative and significantly impacts groups across generations and contemporaneously.

### **Racial Stress and Black Health**

Racism and subsequent racism-related stressors are found to have significant impacts on wellbeing and health outcomes for people of color. Not only does racism affect persons of color immediate social outcomes, including equitable access to resources, but ample evidence shows that racism-related stress is detrimental for one's health, particularly physical and psychological health outcomes (e.g., Clark, Anderson, Clark, & Williams, 1999; Paradies, 2006; Pascoe & Smart Richman, 2009; Pieterse, Todd, Neville, & Carter, 2012; as cited in Lewis, Williams, Peppers, & Gadson, 2017). Clark et. al's (1999) biopsychosocial conceptual model of perceived racism examines racism's psychological, physiological, and social tolls on Black lives. Perceived racism was found to induce coping, psychological, and physiological stress responses, which often impacted overall health outcomes. The current study specifically explores the relationship between racism-related stress and physical (binge eating behaviors) and psychological (depressive symptomatology) health issues among Black female graduate and professional programs of study students across the United States. To be further explored, anti-Black racism functions as a hazardous stressor that increases the risk of health issues among Black persons.

Over the years, growing research suggests that anti-Black racism and racism-related stress be addressed as issues of public health, as experiences of racial discrimination are shown to increase the likelihood of significant adverse physical and psychological health problems among Black people. These include associated rates of depression, anxiety, heart disease, breast cancer, high blood pressure, immune system deficiencies, and even early mortality for older

Black adults (e.g., Santiago, 2018; Graham-LoPresti, Abdullah, Calloway, & West, 2017; Kwate, Valdimarsodttir, Guevarra, & Bovbjerg, 2003; Williams & Neighbors, 2001; Lewis et. al, 2006; Taylor et al., 2007; Barnes et al., 2008; most as cited in Silverstein, 2013). Racism-related stress has also been associated with other negative health behaviors and outcomes for Black people, including smoking and substance use, trauma-related symptoms, psychological distress, increased physiological arousal, disordered eating behaviors, somatization, and homicides and suicides (e.g., Landrine & Klonoff, 1996; Neuspiel, 1996; Kwate, Valdimarsodttir, Guevarra, & Bovbjerg, 2003; Adams, 1990; Harrell, Merchant, & Young, 1997; Root, 1993; Amaro, Russo, & Johnson, 1987; Jackson et al., 1996; Pak et al., 1991; Thompson, 1992; Comas-Diaz & Greene, 1994; Kirk, 1986; most as cited in Harrell, 2000).

Racism presents as a risk factor across a wide spectrum of physical and psychological health areas. In lieu of staunch connections between racial discrimination and Black health outcomes, it is imperative that racism be examined as a "social toxin that may be sickening and, ultimately, killing people" (Omole, 2018).

### **Intersectionality & Gendered Racism-Related Stress: Impact on Black Women**

Albeit limited, growing research is beginning to use an intersectional feminist theory framework as a means to center Black women and their unique experiences of racism in the racial stress paradigm. Black women move through society at the intersection of racism and *sexism* (defined here as prejudice and/or discrimination against female-identified persons that is rooted in patriarchy and the belief in male superiority), which compounds their experiences of racism-related stress (e.g., Beal, 1970; as cited in Lewis, Williams, Peppers, & Gadson, 2017). The term *intersectionality* was first used by feminist and legal scholar Kimberle Crenshaw (1989), as she powerfully connected Black feminism theory to her work on Black

women's invisibility within anti-discrimination law. Intersectionality is a framework that critically examines how “interlocking” types of oppression and power impacts individuals' lives based on their structural identities, most notably race, gender, class, and sexuality (e.g., Cole, 2009; Disch, Hawkesworth, & Cooper, 2015). Birthed from the tenacity of early Black feminists, including Sojourner Truth and Anna Julia Cooper, intersectionality theory emphasizes the simultaneous oppressive forces that marginalize Black women on account of their politicized racial, gendered, and other identities. This early framework has paved the way for contemporary Black feminists, such as Angela Davis, Patricia Hills Collins, bell hooks, and Kimberle Crenshaw, who continue to shape intersectionality work from an interdisciplinary lens. In this light, the current study aims to apply an intersectional Black feminist framework to address racism-related stress and health outcomes as experienced by Black women.

Connected to intersectionality frameworks, *gendered racism* refers to the unique dual experiences of oppression at the intersection of racism and sexism. Coined by critical race sociologist, Philomena Essed (1991), gendered racism conceptualizes how women of color, particularly Black women, experience compound discrimination that is both anti-woman and anti-Black. As noted by Szymanski & Lewis (2016), much of the current research that explores Black women's experiences of oppression examine the impact of racism and sexism separately – through either a “single axis or additive methodology”. In turn, this literature does not permit an evaluation of how racism and sexism intersect in the lives of Black women (i.e. gendered racism) and combine as unique stressors that impacts wellness and health outcomes for this population.

In recent years, there has been an increased application of intersectionality framework to explore how gendered racism affects the psychological and physical health of Black women (e.g., Lewis et al., 2017; Lewis, Neville, & Tracey, 2015; Perry, Harp, & Oser, 2013; Stevens-

Watkins, Perry, Pullen, Jewell, Oster, 2014; Szymanski & Lewis, 2016; Thomas, Witherspoon, Speight, & Hall, 2008; Woods, Buchanan, Settles, & Hall, 2009). This research suggests that gendered racism significantly impacts the mental and physical health outcomes of Black women. For example, in a sample of 344 self-identified Black women, Thomas et al. (2008) found that Black women reported extensive and varied experiences of gendered racism, particularly in the context of interpersonal settings and relationships, including discrimination from service professionals (e.g., servers, sales clerks), within their work and employment (e.g., employers, coworkers), and incidences of sexual harassment. Results of this study also found that Black women who reported more experiences of gendered racism demonstrated increased global psychological distress and symptoms of psychopathology, including depression and anxiety. Other studies have found that racism-related stress (not specifically gendered racism) can also negatively impact Black women's physical health. Racism-related stress has been associated with increased rates of immune system deficiencies (e.g., the common cold), cardiovascular disease, cigarette smoking and substance use, breast cancer, low infant birth weight, and other significant physical health problems for Black women (e.g., Collins, Davis, Handler, Wall, & Andes, 2005; Kwate, Valdimarsdottir, Guevarra, & Bovbjerg, 2003; Lewis, Everson-Rose, Powell, Matthews, Brown, Karavolos, Sutton-Tyrrel, Jacobs, & Weslet, 2006; Taylor, Williams, Makambi, Mouton, Harrell, Cozier, Palmer, Rosenberg, & Adams-Campbell, 2007; most as cited in Silverstein, 2013).

It is critical that more literature continue to center Black women in racism-related stress and gendered racism research. Racial discrimination as experienced by Black women is often compounded by their intersectional identities of Black and female. Applying intersectionality

allows for greater exploration of this population's unique experiences of oppression and its impact on their wellness and health outcomes (Lewis, Williams, Peppers, & Gadson, 2017).

### **Racial Stress Among Black Undergraduate and Graduate College Students**

Black college and graduate students are not insulated from the realities of anti-Black racism and racism-related stress. In fact, a survey conducted by the Pew Research Center found that Black people who attended college were *more* likely to report experiences of racial discrimination or unfair treatment because of their race when compared to Black people without college experience (Anderson, 2016). As described by journalist, Clarissa Hamlin, college and university campuses have long been "breeding grounds for racism" (Hamlin, 2018). While targeted racism and anti-Blackness are nothing new in the land of academia, there has been a visibly significant increase in campus hate crimes and racially motivated events across the United States, notably, since the 2016 presidential election. In August 2017, the University of Virginia made national headlines as a violent group of neo-Nazi, white nationalists, carried tiki torches and marched across the Charlottesville campus shouting slogans that included "you will not replace us" and "white lives matter". A woman was killed, dozens of people were injured, and this event sparked national dialogue about the hatred and bigotry that permeates through college campuses and the larger United States society.

Charlottesville is only one example of the recent spike in racially charged incidences on university campuses. According to reports by the Southern Poverty Law Center (SPLC), more than 330 bias-related incidents were reported on college campuses between November 9th, 2016 and March 31st, 2017 (SPLC; as cited in Duster, 2017). The Anti-Defamation League Center on Extremism indicates that at least 188 white supremacist related incidences have been reported on 126 college campuses around the nation since September 2016 (as cited in Duster, 2017). From

racial slurs and verbal harassment targeted towards Black students at institutions including the University of Michigan and Westfield State University (Bauer-Wolf, 2017) to the display of a hanging banana, confederate flag, and cotton to symbolize the lynching of Black bodies at American University (Duster, 2017), Black students are being forced to withstand chronic contextual stressors and often must "learn under the threat of racism with limited safe spaces" (Hamlin, 2018).

It is important to note that racism towards Black students is not only experienced through overt, explicit events as presented above. Black students, and other students of color particularly at historically and predominantly white institutions, also experience more covert, implicit types of racism, namely *racial microaggressions*. As described by Solórzano et al. (2000), Black students experience microaggressions in academic, social, and public spaces across college campuses. Microaggressions are often verbal (e.g., inappropriate jokes, questions, comments), nonverbal (e.g., unwarranted staring, ignoring, or relocating when a person of color enters the space), and/or visual insults (e.g., racist messages through art and literature, film, etc.) and whether or not intended, promote an unfriendly and hostile academic environment (Portman, Bui, Ogaz, & Trevino, 2009). These insults leave students of color feeling simultaneously invisible and hyper visible, which can lead to feelings of sadness and isolation, in addition to feelings of "anger, frustration, and withdrawal" (Portman, Bui, Ogaz, & Trevino, 2009). It is critical to further explore how microaggressions and other forms of racism-related stress in college academia impacts Black students. As most general college health literature focuses on white, undergraduate students, there is a dearth of scholarly research that includes, and more importantly centers, the experiences of Black graduate students. The current study aims to explore institutionalized racism-related stress as experienced by Black female graduate and

professional program of study students and its connection to their mental and physical health outcomes.

Existing studies find that racism-related stressors in academia can significantly impact the psychological and physical health of Black college students (e.g., Brasher, 2015; Cokley, McClain, Enciso, & Martinez, 2013; Easterwood, 2016; Husband, 2016; Smith, Allen, & Danley, 2007; Smith, Yosso, & Solórzano, 2011). Outside of the typical stressors that many college students experience, Black students are met with another set of pervasive challenges that are rooted in anti-Black racism and discrimination in academia. Black students report higher levels of stress related to perceived racism and discrimination compared to other students of color that often go unaddressed by the larger campus community (Cokley, McClain, Enciso, & Martinez, 2013; Easterwood, 2016). As a means to better understand the unique stressors experienced by students of color, particularly those attending predominantly white institutions, Smedley, Myers, & Harrell (1993) developed the Minority Student Stress (MSS) Scale, a 33-item measure that combines items from “generic student stress scales and specific issues related to being a student of color” in higher education with higher scores indicating greater minority student stress. The MSS Scale captures these in five distinct sub scale factors: a) Social Climate Stressors; b) Interracial Stresses; c) Racism and Discrimination Stresses; d) Within-Group Stresses; and e) Achievement Stresses. As demonstrated in a sample of 1,096 first year undergraduate students of color, the authors found that higher levels of stress reported on the MSS scale were associated with negative health outcomes, including increased risk for psychological distress (i.e., anxiety, somatization, interpersonal sensitivity, obsessive-compulsiveness, and depression) and lower feelings of wellbeing (i.e., health, worry/concern, energy level, mood, emotional stability, control, and tension/nervousness). To the author’s

knowledge, this study was the first to design and utilize a measure that examined racial stress specifically as experienced by students of color in a higher education institution. This study provided robust insight into the psychological and emotional impacts of being a student of color in predominantly white institutions. Although the MSS scale was developed for use with undergraduate students of color, it may still present as a relevant measure of contemporary stress for students of color across different levels of higher education. The current study will use the MSS scale with a sample of Black graduate and professional program of study students across the United States to explore its application to their unique experiences of racial stress within their academic institutions.

Nearly 20 years ago, researcher William Smith coined the theoretical framework *racial battle fatigue*, to describe the chronic cumulative emotional, psychological, and physiological distress experienced by Black students in predominantly white colleges and institutions due to racial discrimination and microaggressions (Smith, Allen, & Danley, 2007). Smith explores how racial battle fatigue theory can be used to understand how academic social environments in historically and predominantly white institutions promote racism-related stress and impacts the health and academic performance of Black students (University of Utah, 2017). The daily and chronic stressors of anti-Blackness in academia can lead to heightened stress responses that cause psychological and physiological symptoms for Black students (University of Utah, 2017). Through interview focus groups, Smith, Allen, and Danley (2007) found that Black males experienced anti-Black male stereotyping and racial microaggressions in academic, social, and public spaces. These students demonstrated psychological stress responses in accordance to racial battle fatigue, including feelings of "frustration, shock, anger, disappointment, resentment, anxiety, helplessness, hopelessness, and fear." Other documented symptoms of racial battle

fatigue include extreme fatigue, high blood pressure, increased heart rate, emotional and social withdrawal, hypervigilance, poor sleep patterns, body aches, and “John Henryism”, which describes “prolonged, high-effort coping with difficult psychological stressors” (Smith, Allen, & Danley, 2007). Ebony McGee, an Associate Professor of Education of Diversity and Urban Schooling at Vanderbilt's Peabody College, also addresses the chronic mental health stressors Black students experience in predominantly white academic institutions in her research. She reports *“We have documented alarming occurrences of anxiety, stress, depression and thoughts of suicide, as well as a host of physical ailments like hair loss, diabetes and heart disease”* (as cited in Brasher, 2015). Continued efforts are needed that call attention to racism-related stress and the significant toll that it has on Black college and graduate students. In addition to documenting the experiences of this population, McGee's work is also pushing for systemic changes within universities policies and administration that will enable Black students to begin to lead healthier lives in academia that allows for healing from institutionalized racial injustice (Brasher, 2015).

### ***Racial (and Gendered) Stress Among Black Women in Academia***

A 2017 report from the Council on Graduate Schools reported that 188,838 Black students were enrolled in all U.S. graduate schools, constituting 12.6 percent of total graduate student enrollment across the nation. Of this figure, Black women significantly outnumber Black men, representing 69 percent (130,006) of Black graduate student enrollment (Okahana & Zhou, 2018). However, limited work has examined the unique experiences of Black women in academia, particularly those in graduate and professional programs of study. Most college health literature centers white, undergraduate students, at the exclusion of Black female students, including those obtaining graduate-level credentials.

As previously noted in intersectionality and gendered racism theory research, we know that Black women combat specific stressors related to the interlocking of their racial and gendered identities (e.g., Shorter-Gooden, 2004; Woods-Giscombé & Lobel, 2008, as cited in Lewis & Neville, 2015), that are associated with disparities in health outcomes. Black women are at higher risk for poor health conditions ranging from psychological distress to physical health concerns, including "heart disease, diabetes, mortality from cancer-related illnesses, and adverse birth outcomes" when compared to white women (U.S. Department of Health & Human Services, 2010, as cited in Lewis & Neville, 2015). In lieu of this research, it is critical that continued research focus on the lived intersectional racial and gendered experiences of Black women across societal domains, including those in academic and educational institutions, by which typical stressors are often compounded by experiences of targeted systemic discrimination among this population.

A few studies have focused on the experiences of racism-related stress and/or gendered racism among Black college women (e.g., King, 2003; Lewis, Mandenhall, Harwood, & Hunt, 2013; Syzmanski & Lewis, 2016; Watkins, LaBarrie, & Appio, 2010). In one study, Syzmanski & Lewis (2016) examined experiences of gendered racial discrimination, related coping mechanisms, and psychological distress in a sample of 212 Black women in undergraduate and graduate studies. They found that increased levels of perceived gendered racial discrimination were related to higher levels of coping via withdrawing from others and the discriminatory event, in addition to self-blame, which was related to increased psychological distress among the participants. In another study (King, 2003), 112 Black female undergraduate students were asked to imagine themselves in an audiotaped scenario in which two white male colleagues made unfavorable evaluations about them. Participants were then asked to attribute the evaluations to

one of three types of prejudice: ethnic prejudice/racism (i.e., racial discrimination), gender prejudice (i.e., sexism), and ethgender (i.e., gendered racism). The authors found that the more participants attributed the negative evaluation to ethnic or ethgender prejudice, the more stressed the women reported their emotions (e.g., worried, tense, angry, discouraged). Interestingly, gender prejudice alone was not significantly related to reported levels of stress. This study demonstrated that Black women in academia reported higher levels of stress when faced with prejudice stemming from gendered racism or ethnic racism, when compared to gender prejudice alone. Other studies have found similar findings among Black women, such that experiences of perceived racism alone were found to produce greater levels of distress when compared to perceived sexism alone (Miller, 1988, as cited in King, 2003) and generally, Black women reported greater experiences of racism than sexism alone (Lykes, 1983, as cited in King, 2003). The present study seeks to expand existing literature by using an intersectional framework to gauge racism-related and gendered racism-related stress as experienced by Black women in graduate and professional programs of study. Psychological distress, particularly depressive symptomatology will also be explored, in addition to distressed eating behaviors.

### **Depression: Prevalence, Types, Symptoms**

Depressive disorders are generally associated with significant changes in mood, cognitions, and physical symptoms. According to the National Institute of Mental Health (NIH), major depressive disorder (MDD) is one of the most pervasive mental health disorders in the United States. Data from the 2016 Substance Abuse and Mental Health Services Administration survey found that 16 million adults (6.7% of the population) are affected by MDD annually, making it one of the leading causes of disability across the nation (Anxiety and Depression Association of America, 2016; National Institute of Mental Health, 2017a). MDD is

characterized by a host of symptoms, including overwhelming feelings of sadness or loss of interest in previously enjoyed activities; changes in appetite; poor sleep patterns; persistent fatigue; feelings of worthlessness and excessive guilt; recurring thoughts of death and suicidal ideation; and cognitive impairments, including difficulty thinking and making decisions (American Psychiatric Association, 2013; Anxiety and Depression Association of America, 2016). Persistent depressive disorder (PDD), or dysthymia, is the second most common type of depression and is characterized by the same symptoms as MDD, but the symptoms are typically less severe and demonstrate greater chronicity, often persisting for at least two years and (American Psychiatric Association, 2013). The National Institute of Mental Health estimates that between 2001 to 2003, 1.5% of adults in the United States had PDD each year, while 1.3% of adults are estimated to experience PDD at some point during their lifetime (Harvard Medical School, 2007; National Institute of Mental Health, 2017b).

Depression often impairs daily functioning, as the National Health and Nutrition Examination Survey reported that nearly 80% of adults with depression demonstrated difficulty with work, home, and social activities due to their symptomatology (Brody, Pratt, & Hughes, 2018). Prevalence of depression varies across demographics, including gender, as this study found that depression rates were twice as high for women (10.4%) than men (5.7%). Poverty was also found to be a significant predictor of depression. While over 15% of adults from families living below the federal poverty level had depression, this figure fell to 3.5% among adults at or above 400% of the poverty level (Brody & Hughes, 2018). Across men and women, rates of depression were also lower as family income and socioeconomic status increased. This positive association between poverty and depression draws critical attention to environmental contributions to depression, as continued research must identify poverty and income distribution

as social determinants of health that impacts life outcomes, particularly mental and physical health status.

### ***Depression Among Black Americans***

Depression and related mental health challenges are a significant concern for Black people across the United States. The Centers for Disease Control (CDC) estimates that 4% of Black people in the United States have depression (Gonzalez, Berry, McKnight-Eily, Shrine, Edwards, Lu, & Croft, 2010; as cited in Longmire-Avital & Robinson, 2018). While studies find that rates of mental illness among Blacks Americans are similar to those of the overall population (e.g., American Psychiatric Association, 2017), other research finds that Black adults report serious psychological distress at rates that exceed by 10-20% those of white adults (e.g., U.S. HHS Office of Minority Health, 2016). According to the United States Department of Health and Human Services Office of Minority Health, Black adults are more likely to endorse feelings of sadness, hopelessness, and worthlessness, compared to white adults. As previously noted, poverty is also associated with mental health outcomes, and Black people living below the poverty level are 3 times more likely to report psychological distress, when compared to Black people who are at least twice as often over the poverty level (U.S. HHS Office of Minority Health, 2016). Suicidality among Black people is another critical issue. Suicide rates among Black adults are relatively lower compared to other ethnicities, but recent reports are finding that while Black teenagers (ages 13-14) are less likely to die by suicide when compared to white teenagers (but are more likely to attempt suicide), Black children (ages 5-12) are increasingly committing suicide at rates that exceed the proportion for white children (Bridge, Horowitz, & Fontanella, 2018; U.S. HHS Office of Minority Health, 2016). With regards to mental health treatment, Black people are under-insured and are less likely to have health care coverage

(Agency for Healthcare Research and Quality, 2014) or receive treatment for mental health issues, including counseling and medications (SAMHSA, 2015; as cited in U.S. Department of Health and Human Services Office of Minority Health, 2016).

Depression and related mental health challenges are specific concerns for Black women in the United States. Research finds that while 1 in 5 women will have depression at some point during the course of her life, the rate of depression among Black women is 50% higher than the rate for white women (Black Women's Health, 2015). Reports find that Black women are also more likely to endorse psychological distress than white men and women (Black Women's Health, 2015). The CDC's National Health Interview Survey also found that the percentage of the population of Black women across the nation who express feelings of sadness (3.9%), hopelessness (2.4%), worthlessness (1.8%), and that everything is an effort (9.9%) is notably higher than rates for white women (CDC, National Health Interview Survey, 2016; as cited in U.S. Department of Health and Human Services Office of Minority Health, 2016). Although studies suggest that Black women are overwhelmingly impacted by depression and related symptomatology, reports find that Black women receive lower rates of appropriate depression treatment and are "one of the most under treated groups in the United States" (Hamm, 2014). This study aims to center Black women in the narrative of depression, as continued research is needed that explores the unique societal contributors that impact this population's mental health.

### **Racism-Related Stress and Depression**

Extended research suggests that experiences of racism and discrimination are associated with increased risks of depression and related psychological distress among adolescents and adults of color (e.g., Coker, Elliott, Kanouse, Granbaum, Schwebel, Gilliland, & Schuster, 2009; Kogan, Yu, & Brody, 2015; Molina & James, 2016; Ong, Fuller-Rowell, & Burrow, 2009;

Tynes, Giang, Williams, & Thompson, 2008). For example, among a sample of 91 Latino adults, Torres & Ong (2010) found that participants who reported greater discriminatory experiences in occupational, academic, and public settings over a 13-day period, reported higher levels of depressive symptoms in comparison to their baseline symptomatology 24-hours after experiencing the discriminatory event. Hwang, Goto, & Gordon (2008) found that both Asian and Latino college students endorsed increased psychological distress, including depression, anxiety, and suicidal ideation, as they reported higher frequency and perceived levels of stress from racial discrimination. Among a sample of 218 American Indian adults with diabetes, Walls, Gonzalez, Gladney, & Onello (2015) found that one-third of participants reported experiencing microaggressive racial assaults from their health care provider. The authors found that increased reports of racial microaggressions were correlated to greater depressive symptoms, heart attacks, and even number of hospitalizations during the past year among participants.

Of specific relevance to the current study, research finds that racism and related stress are also associated with increased risk of depressive symptomatology and psychological distress among Black people (e.g., Cooper, Gonzales, Gallo, Rost, Meredith, Rubenstein, Wang, & Ford, 2003; Hoggard, Byrd, & Sellers, 2015, as cited in Taylor, Campbell, Thorpe, Whitfield, Nkimbeng & Szanton, 2017). Racial discrimination is found to produce psychological stress (i.e., racial stress), which can contribute to poor physical and emotional health. Pieterse, Todd, Neville, & Carter (2012) conducted a meta-analysis to explore the relationship between perceived racism and adverse psychological and physiological distress among Black Americans adults. The authors reviewed 66 studies (18,140 participants across studies) done between 1996 and 2011 and found that perceived racism and psychological distress were positively associated

at an average  $r$ -value of .20. Moderation effects for psychological distress on perceived racism were found, and the effects of perceived racism were stronger for psychiatric symptoms when compared to quality of life factors. This meta-analytic study presents valuable evidence on the significant relationship between experiences of racism and mental health outcomes for Black people in the United States.

Black women in particular may be at increased risk for experiencing depression due to their unique position at the intersection of racial and gendered discrimination. Researchers continue to search for increased understanding of the relationship between experiences of racism (or perceived discrimination) and health outcomes. As noted by Schulz, Gravlee, Williams, Israel, Mentz, & Boew (2006), many studies that seek to explore the relationship between discrimination and health are cross-sectional designs and therefore only collect data at a specific point in time. To extend this research, these authors examined the longitudinal relationship between discrimination, depressive symptoms, and other health outcomes among Black women in a Detroit community. In a sample of 343 Black women who participated in two waves of data collection in 1996 and 2001, the authors found that participants who experienced higher everyday encounters of racism, measured using the Everyday Perceived Discrimination Scale, demonstrated poorer mental health and physical health outcomes, compared to participants who reported lower frequency of perceived discrimination. Black women who reported increased daily discrimination indicated higher levels of depressive symptoms on the Centers for Epidemiological Depression Scale (CES-D), a 20-item measure of depressive symptomatology, and also rated their general self-reported health status as significantly poorer. This association between perceived discrimination and health outcomes was consistent across participant household income and education levels. As described by the authors, increased exposure to

discrimination over time was correlated to increased reports of depressive symptomatology and declining self-reported general health. This article provides clear evidence of the significant effects of everyday discrimination on Black women's health over time.

### **Depression Among Black Undergraduate and Graduate College Students**

The increasing numbers of students experiencing depression and related symptomatology on college campuses is posing a significant crisis throughout the nation. College students experience several contextual challenges that can impact their mental health, including relocation away from family and friends; academic stress and pressure to succeed; and financial burdens associated with tuition expenses, student loans, and an increasingly unstable job market post-graduation (Voelker, 2003). A study conducted by the American College Health Association found that 61% of college students reported feeling hopeless; 45% reported severe depression that impaired their ability to function; and 9% reported feelings of suicidality (as cited in Voelker, 2003). A pilot study conducted by the National Mental Health Association College Student and Depression reported that suicide is the second highest cause of death among college students (Voelker, 2003). More recently, a 2013 study conducted by the Association for University and College Counseling Center Directors found that 36.4% of college students reported experiencing some level of depression (Mistler, Reetz, Krylowicz, & Barr, 2013).

This figure is similar to the depression rate for graduate students, as a 2018 study found that graduate students are six times more likely to experience depression when compared to the general population (Evans, Bira, Gastelum, Weiss, & Vanderford, 2018). The authors of this study found that depression is a worsening concern in graduate studies, as 39% of graduate students (sample size of 2,279 PhD and Masters students) scored in the moderate to severe depression range on the PhQ-9 scale. Consistent with depression research in the general

population, women graduate students were more likely to report experiencing depression than male graduate students. And according to the Center for Collegiate Mental Health's (CCMH) 2017 annual report, depression is the second most common presenting concern for college students who seek mental health services, as depression rates have demonstrated annual increases in frequency since 2013 (CCMH, 2017). Many college health and counseling clinics are unable to adequately serve the increasing mental health needs of students, and subsequently, many students with depression go undiagnosed and untreated (Voelker, 2003). Longmire-Avital & Robinson (2018), highlight a major deficit in college mental health literature: most of the data collected on mental health among this population centers white (undergraduate) students (Eisenberg, Gollust, Golberstein, & Hefner, 2007). Evans et al. (2018)'s research on mental health among graduate students (cited above) addresses the need to better understand the challenges experienced by graduate student population, and the current study seeks to push this further, by centering the mental health experiences of Black women in graduate and professional programs of study.

Anti-Black racism and racism-related stress in contemporary society, paired with the unique stressors of being a student in higher education, increases Black students' risk for developing depression and related mental health challenges. As discussed in their dissertation, Easterwood (2006) describes racism-related stress experienced by Black college students that is immensely multi-layered and complex. Racism and the subsequent stress that Black students combat in academia is known to produce mental and physical health problems, including low self-esteem; poor concentration and attention; and anxiety and depression. Further, graduate students often experience a particular set of stressors, that can include "social isolation, the sometimes abstract nature of the work and feelings of inadequacy, and the slim tenure job

market" (Flaherty, 2018). Graduate students also experience pressures of balancing work-life responsibilities, including family and relationships and finances.

McGee & Stovall (2016) describe other harmful stressors that Black students frequently face in higher education, particularly at predominantly white institutions. These include *tokenism*, or the act of "one person representing an entire group of people in a majority setting; *pioneerism*, "being the first member of a minority group to obtain higher education in a particular area of student or within one's family"; *marginalization*, "the overlooking of achievements by underrepresented students of color"; and, *pet-to-threat syndrome*, which is when "a person who is first welcomed as a minority is turned against when he or she becomes a contender for research money or awards". These stressors can negatively impact Black students' ability to perform in higher education and are found to be associated with increased rates of depression among Black college students. As previously discussed, experiences of racism-related stress and institutional discrimination among Black college students can lead to *racial battle fatigue* (Smith, Yosso, & Solórzano, 2011; Smith, Allen, & Danley, 2007; as cited in Longmire-Avital & Robinson, 2018). Research finds that microaggressions and other forms of anti-Black discrimination can lead to adverse physical and mental outcomes for Black students. Returning back to the foundational work of Smith, Allen, & Danley (2007), their focus group studies conducted with 36 Black male students enrolled in five undergraduate and graduate programs across the United States, highlighted the frequency by which these students experienced racial microaggressions, particularly stereotyping and marginalization, that corresponded to a significantly high level of psychological and physical stress including "headaches, extreme fatigue, high blood pressure, anxiety, hypervigilance, frustration, and socioemotional withdrawal". This qualitative study draws critical attention to the daily

experiences of racism and the subsequently harmful psychological stress that is combatted by Black students in predominantly white institutions. As noted, this study highlights both the racial and gendered identities of Black male college students and how this intersection shapes their experiences in academia.

Drawing specific attention to depressive symptomatology among Black female students in undergraduate studies, Longmire-Avital & Robinson (2018) explored racial differences in depressive symptomatology and perceived stress levels among a group of 369 Black and white female college students. Participants completed an online survey reporting their levels of depressive symptomatology as indicated on the CES-D. The authors found that Black female participants reported higher levels of depressive symptomatology ( $M = 24.61$ ) when compared to white female participants ( $M = 15.68$ ). Alarming, results indicated that the Black female participants met criteria for MDD at two times the rate of the white female college student participants. Black female college participants also reported higher levels of perceived stress, as measured using the Perceived Stress Scale. This study draws imminent attention to the significant psychological pain that many Black women are experiencing across college campuses, including major depression.

The current study seeks to explore depressive symptomatology and disordered eating among Black female graduate and professional program of study students. These mental health indicators will be examined in relation to experiences of academic racism-related stress, discrimination and specific stressors associated with being Black and female in graduate school academic settings.

## **Binge Eating and Racism-Related Stress Among Black Women**

In addition to its connection to depression, racism-related stress has also been found associated with eating problems among women of color, particularly Black women (e.g., Assari, 2018; Clark, Anderson, Clark, & Williams, 1999; Harrington, Crowther, Henrickson, & Mickelson, 2006; Mastria, 2002; Root, 1990; Smolak & Striegel-Moore, 2001; Talleyrand, 2006; Thompson, 1994, 1996; most as cited in Connolly, 2011). Although new research promises to shift this narrative, Black women are often unnamed in disordered eating literature. While eating disorder research is quite extensive, it frequently lacks an intersectional framework, as much of this work centers young and middle-aged, white, middle-class women (e.g., Harrington, Crowther, & Shipherd, 2010; Striegel-Moore, Wilfley, Pike, Dohm, & Fairburn, 2000). Eating disorders are generally perceived to be restricted to white women and girls, and this fallacy leads many to believe that Black women and other women of color are “well-protected” from their development (Small, 2016; Striegel-Moore, Wilfley, Pike, Dohm, & Fairburn, 2000). It is imperative that researchers and mental health practitioners alike not only strive to better understand and acknowledge disordered eating behaviors among Black women, but explore the contributors to these issues, including the role of gendered racism and racism-related stress on their development and maintenance. The current study aims to examine binge eating behaviors among Black women, and their association to experiences of gendered racism-related stress and discrimination in academia, and depressive symptomatology.

## **Eating Disorders: Definition, Prevalence, Types, Symptoms**

Eating disorders (EDs) are defined as mental illnesses "in which people experience severe disturbances in their eating behaviors and related thoughts and emotions. People with eating disorders typically become preoccupied with food and their body weight" (American

Psychiatric Association, 2017b). Research finds that while EDs are relatively rare, 30 million people in the United States will develop an ED at some point in their lifetime (National Eating Disorders Association, 2018). Women between the ages of 12 and 35 years old are the most frequently diagnosed population with EDs across the nation (American Psychiatric Association, 2017b). Boys and men are also impacted by EDs, as researchers suggest that this group is estimated to "represent at least 10% of people who receive treatment for EDs" (The Center for Eating Disorders, 2015).

The two most commonly referenced EDs are anorexia nervosa (characterized as "excessive weight loss due to self-starvation"), with nearly 1% of American women and 0.3% of American men receiving a lifetime diagnosis; and bulimia nervosa (characterized as a "chronic cycle of bingeing and purging"), with roughly 1.5% of American women and 0.5% of American men receiving a lifetime diagnosis (The Center for Eating Disorders, 2015; Hudson, Hiripi, Pope, & Kessler, 2007). Critically, EDs have the highest mortality rate compared to any other mental illness and estimates report that every 62 minutes a life is lost from the direct result of an ED (Eating Disorders Coalition, 2016; as cited in National Association of Anorexia Nervosa and Associated Disorders, 2018). EDs are associated also with a host of psychological impairment and negative health, including depression, anxiety, substance use, bone loss, organ damage, and infertility (Eating Disorder Hope, NA).

In 2013, the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) made significant changes to eating disorder literature and diagnostic tool criteria, adding Binge Eating Disorder (BED) as a diagnosable illness after 20 years of research (National Eating Disorder Association, 2018b). Prior to its entry in the DSM-5, binge eating was only diagnosed

as an 'Eating Disorder Not Otherwise Specified' (EDNOS) subtype. Currently, BED is a diagnosable, stand-alone condition characterized by five main diagnostic features:

- 1) Recurrent episodes of binge eating within a discrete period of time of an amount of food that is larger than most people would eat in a similar period of time under similar circumstances. During binge eating episodes, individuals feels a lack of control during these periods;
- 2) Binge eating episodes are associated with at least three of the following: eating much more rapidly than normal; eating until feeling uncomfortably full; eating large amounts of food when not physically hungry; eating alone because of feeling embarrassed by how much one is eating; and/or feeling disgusted with oneself, depressed, or very guilt afterwards;
- 3) Marked distress regarding binge eating is present;
- 4) The binge eating occurs, on average, at least once a week for three months;
- 5) Binge eating is not associated with the recurrent use of inappropriate compensatory behaviors, such as self-induced vomiting (American Psychiatric Association, 2013).

Upon its inclusion in the DSM-5, BED became the most commonly diagnosed ED in the United States. It is found to be three times more common than anorexia and bulimia combined (National Eating Disorder Association, 2018), as 3.5% of women and 2% of men in the United States are estimated to have a clinical diagnosis of BED (Hudson, Hiripi, Pope, & Kessler, 2007; as cited in The Center for Eating Disorders, 2015).

Although continued research is required on BED prevalence since its inclusion as a recognizable mental disorder in the DSM-5, binge eating is cited as the most common disordered pattern among Black women in the United States (e.g., Streigel-Moore et al., 2003; Taylor,

Caldwell, Baser, Faison, & Jackson, 2007). Estimates suggest that anywhere from 8% to 34% of Black women experience binge eating, with 2% to 5% of Black women meeting diagnostic criteria for BED (e.g, Smith, 1995; Striegel-Moore, Wilfley, Pike, Dohm, & Fairburn, 2000; as cited in Harrington, Crowther, & Shipherd, 2010). Taylor, Caldwell, Baser, Faison, Jackson, Wonderlich, Striegel-Moore (2007) used interview data from the National Survey of American Life collected between 2001 and 2003 on eating disorders prevalence based on a national sample of 5,191 Black adults and 1,170 Black adolescents. Participants completed the World Mental Health (WMH) Composite International Diagnostic Interview, an interview-measure that assesses diagnostic criteria for anorexia, bulimia, and binge eating behaviors. The authors found that while anorexia had the lowest lifetime and 12-month prevalence of all EDs among Black adults and adolescents, binge eating was the most prevalent eating disorder among Black adults, with an adult lifetime prevalence of 5.08% and a 12-month prevalence of 2.24%; and a 1.56% 12-month prevalence for adolescents. Regression models demonstrated that Black female participants were significantly more likely to develop binge eating than Black male participants. Taylor, Caldwell, Baser, Faison, Jackson, Wonderlich, Striegel-Moore (2007) critically examined the prevalence and other select features of EDs in a nationally representative sample of Black adults and adolescents. Although EDs rates were not found to be generally high, binge eating was the most prevalent behavior among Blacks, and subsequently warrants increased attention in ED research.

In another study, Striegel-Moore, Wilfley, Pike, Dohm, & Fairburn (2000) focused on racial differences in the prevalence of ED symptoms, including recurrent binge eating within a community sample of 1,628 Black women and 5,741 white women. Participants completed a telephone survey that assessed for the presence of binge eating and weight control behaviors,

such as vomiting, laxative abuse, and fasting. The authors found that although there were no significant differences between Black and white women's endorsement of binge eating and vomiting during the past three months, Black women were nearly 2x more likely endorse greater frequency of recurrent episodes of binge eating when compared to white women (4.5% vs. 2.6%). In this sample, Black women also reported higher frequency of fasting and abuse of laxatives for weight control. Notably, increased recurrent binge eating episodes were correlated with higher levels of psychiatric distress, as indicated using the General Health Questionnaire (GHQ), a screening tool for psychiatric disorders (Goldberg & Hiller, 1979). This study highlights the significance of binge eating behaviors among Black women, and to be further explored in the current study, the association between binge eating and emotional distress (depression) in the lives of this population.

### ***Connections between Racial Stress and Binge Eating***

As previously indicated, multiple studies have found a positive relationship between experiences of racism-related stress and discrimination, and the presence of binge eating behaviors among Black women (e.g., Assari, 2018; Clark, Anderson, Clark, & Williams, 1999; Harrington, Crowther, Henrickson, & Mickelson, 2006; Mastria, 2002; Root, 1990; Smolak & Striegel-Moore, 2001; Talleyrand, 2006; Thompson, 1994, 1996; most as cited in Connolly, 2011). Thompson (1992) conducted a robust, qualitative study to explore eating problems among Black, Latina, and white women. She conducted 18 in-depth life history interviews and questionnaires with 5 Black women, 5 Latina women, and 8 white women. Most of the participants had a mix of eating problems, including bulimia (28% of women), bulimia and anorexia (17% of women), anorexia (5% of women), compulsive eating (50% of women), compulsive eating and no bulimia or anorexia (11% of women), and/or extensive dieting (39% of

women). Two-thirds of the women reported having “eating problems for more than half of their lives.” Thompson (1992) found that many of the Black and Latina women associated their eating problems with their lived experiences of racism, poverty, and classism. For example, one participant, Yolanda, a Black Cape Verdean woman, explicitly connected her compulsive eating challenges to her experiences of poverty-related stress. She described her financial struggles, surviving as a single parent of young children with limited financial resources. After she puts her children to sleep, Yolanda reported regularly bingeing alone to relieve her anxious distress, in addition to feeling a sense of comfort and “safety” in the world. She described her body as a “the only thing she had left” and described food as a “cheap and easy way” find relief from her worries. Yolanda’s story details how poverty and classism-related stressors can influence eating behaviors among Black women. The other participants in this qualitative research also associated the onset of their eating problems with unique environmental traumas, including sexual, physical, and emotional abuse. These women reported that eating was a way to cope with traumas, including daily experiences of anti-Black racism and discrimination. Through life history interviews with women of color, Thompson (1992) presents important insight into feminist etiologies of eating disorders for these populations that will be discussed later in this paper.

Using Thompson’s work as a platform, Connolly's (2011) dissertation work explored the influences of perceived racism and perceived stress on the contextual, emotional, and behavioral factors that impact Black women and their relationship to overeating and binge eating behaviors. In a sample of 201 Black women, participants completed several self-report measures including the Everyday Discrimination Scale, a measure used to assess experiences of racism for people of color; the Binge Eating Scale, a measure used to assess the severity of binge eating; the Yale

Eating Pattern Questionnaire, a measure used to assess a wide variety of eating patterns; and the Perceived Stress Scale, a measure used to assess degree to which life events are unpredictable, uncontrollable, and overloading. Connolly (2011) found that perceived racism was associated with overeating behaviors on the Yale Pattern Questionnaire, mediated through levels of perceived stress, such that Black women who reported greater frequency of racism in their lives, were more likely to endorse overeating. These results support prior studies that indicate that experiences of racism and discrimination are significant predictors in the onset of disordered eating, particularly overeating and binge eating among Black women.

Assari (2018) extended literature on perceived discrimination and binge eating/BED, by specifically examining this association across gender. Using data from the National Survey of American Life between 2001-2003, Assari (2018) collected information from a nationally-representative sample of 3,516 Black women ( $n = 2,229$ ) and men ( $n = 1,271$ ) to measure the prevalence of BED and perceived discrimination in this sample. Perceived discrimination was measured using the Everyday Discrimination Scale (EDS), a measure that assesses "subtle unfair daily treatment on a day to day basis". BED was measured using the CIDI diagnostic interviews' eating disorder module and binge eating module based on DSM-IV diagnostic criteria. Results of this study indicated that although women reported lower levels of perceived discrimination compared to men and no significant differences in prevalence of BED across gender were found, there was a significant and stronger association between perceived discrimination and BED development for Black women. In fact, there was no association between perceived discrimination and BED for Black men, which suggests that BED may be associated as a function of gender among this sample. Black women experience a unique relationship between

racism and binge eating, such that this type of discrimination should be examined as a significant environmental stressor in their development of BED (Assari, 2018).

### *Theories of Eating Disorders*

As described in Thompson (1992)'s qualitative research on eating problems among women of color, there are three theoretical models that are most frequently cited to conceptualize the "epidemiology, etiology, and treatment of eating disorders". In her presentation of these theories, Thompson (1992) critiques their application to women of color, suggesting a powerful shift in the ways that we understand how and why eating problems function among this population.

The first theory of eating disorders is the *biomedical model*. Historically, this model has been the most readily referenced in examining the causes of eating problems, as it presents medical research on the psychological causes of these disorders and the health consequences of harmful weight control behaviors, including vomiting and starvation (e.g., Copeland, 1985; Spack, 1985; as cited in Thompson, 1992). Thompson (1992) suggests that this "medical model" of eating problems centers interventions that are oppressive to women, by which women are subsequently "disempowered and traumatized" (Garner, 1985; Orbach, 1985; as cited in Thompson, 1992). Thompson (1992) offers that the biomedical theory lacks a required intersectional framework of eating problems, such that this model "ignores the social, historical, and cultural factors that influence women's eating".

The second theory of eating disorders is the *psychological model*. As described by Thompson (1992), this model characterizes eating problems as "multidimensional disorders" by which biological, psychological, and cultural factors are at play in their development and maintenance (Garfinkel & Gamer, 1982; as cited in Thompson, 1992). Although this model

incorporates increased efficacy to the treatment interventions for eating problems, as discussed by Thompson (1992), this model fails to base its approach in an intersectional framework that is inclusive of the unique experiences of women of color, women of diverse sexual identities, and women who are working-class.

The third theory of eating disorders presented by Thompson (1992) is the *feminist model*, which speculates that eating problems among women are rooted in gender socialization and inequality. This theory offers rationale for the gender imbalance in the prevalence of eating disorders and suggests that male-dominant narratives are responsible for how we come to see disordered eating among women (Thompson, 1992). Further, the feminist model posits that the U.S. socialization of girls and women to be "thin" is a significant risk factor in their development of eating problems. The "culture of thinness" has created a standard of beauty for women, which is often associated with unhealthy weight control behaviors, such as excessive dieting and extreme weight loss. This culture increases women's risk for developing eating problems (e.g., Chernin 1981; Orbach 1978, 1985; Smead 1984; as cited in Thompson, 1992). As described by Thompson (1992), although feminists have framed the etiology of eating disorders as a "systemic and pervasive attempt to control women's body sizes and appetites", she critiques this theory for its white, heteronormative, and classist-dominant perspective that excludes the voices and experiences of women of color, women of diverse sexual identities, and women who are working-class. The current study aims to eliminate this deficit, by applying a Black feminist framework to exploring eating problems among Black women across intersectional sexual and class identities.

### ***Risk Factors for Eating Problems Among Black Women***

Regine Talleyrand is a leading scholar on eating problems among women of color and the unique stressors that contribute to these symptoms. In their (2006) paper, Talleyrand examined contextual stressors that may be associated with the onset and maintenance of eating problems among Black women, including gendered racism and related stress, classism, and acculturation. Binge eating specifically is thought to be strongly associated with these environmental stressors and presents as a coping mechanism for these types of distress and societal oppression(s) (Talleyrand, 2006).

Talleyrand (2006) identifies experiences of gendered racism as unique stressors that Black women combat that contribute to disordered eating problems. As previously discussed, Black women regularly experience oppression at the intersection of racism and sexism. Black women experience gendered and racial discrimination that holds these two simultaneous identities at the base of their social disadvantages. Talleyrand (2006) presents theories that frame gendered racism as a possible risk factor for eating disorders among Black women. For example, some research suggests that binge eating "may be typical of Black women who internalize racial oppression or reject white cultural standards of beauty" (Harris & Kuba, 1997; Lynch, 2004; Matria, 2002; Thompson, 1994; as cited in Talleyrand, 2006). Disordered eating among Black women is thought to be connected to the unique dual oppression at the intersection of racism and sexism in United States society.

Classism, defined as the "disparate effects of social policy on low status groups", presents as another potential risk factor for the development of eating disorders among Black women (Talleyrand, 2006). Black women are overrepresented in lower-income demographic brackets, and therefore face increased risk for poorer health due to inequity in access to appropriate

healthcare (e.g., Downing, 2004, as cited in Talleyrand, 2006). As described by Talleyrand (2006), research on the relationship between Black women, class status, and eating problems is mixed. For example, some studies find no significant association between class status and disordered eating (e.g., Harris, 1994; as cited in Talleyrand, 2006), while others find that Black women from middle-class backgrounds are at increased risk for experiencing anorexia or bulimia if they subscribe to white, middle-class norms and ideologies (e.g., Smolak & Striegel-Moore, 2001; as cited in Talleyrand, 2006). However, some research finds that lower-income Black women are at increased risk for binge eating (Thompson, 1994; as cited in Talleyrand, 2006). As mentioned, Thompson's (1994) qualitative interviews with Black women who endorsed binge eating behaviors revealed that binging and overeating were used as coping mechanisms to emotionally regulate from the distress and trauma associated with living in poverty and experiences of classism (as cited in Talleyrand, 2006).

Finally, *acculturation*, described as "the process of adopting the cultural norms of the majority culture including adjusting to a new language, social interactions, and lifestyle changes" presents as another possible risk factor, and also a protective factor, in the development of eating problems among Black women (e.g., Smolak & Striegel-Moore, 2001; as cited in Talleyrand, 2006). Blackness may serve as a protective factor for Black women in the onset of eating problems, due to the idea that many Black women are thought to have healthier perceptions of body image and may be less likely to subscribe to the "culture of thinness" that is prevalent within mainstream white society (e.g., Smolak & Striegel-Moore, 2001; as cited in Talleyrand, 2006). Further, higher weight women may be more socially accepted within Black communities and therefore, increased food intake may not translate as a problem. On the contrary, acculturation within Black culture may also present as a risk factor for eating problems,

particularly binge eating, such that this behavior may represent a viable and non-stigmatized coping strategy for life challenges, including experiences of gendered racism and classism (Talleyrand, 2006).

When examining binge eating behaviors among Black women, it is critical that researchers and mental health professionals explore the unique risk factors and theories that are connected to Black women's experiences in the larger society. The current study aims to do this, as it explores the relationship between the endorsement of racism-related stress and discrimination among Black women, and their self-reporting of binge eating behaviors. Demographic factors including socioeconomic status will also be explored.

### **Comorbidity between Depression and Binge Eating**

Numerous studies find that depression and its underlying symptomatology are strongly linked to disordered eating, particularly binge eating and BED (e.g., Casper, 1998; Pope & Hudson, 1998; Santos, Richards, & Bleckley, 2007; Pagoto, Bodenlos, Kantor, Gitkind, Curtin, & Ma, 2012; Smith, Marcus, Lewis, Fitzgibbon, Schreiner, 1998; Strober & Katz, 1987; Szmuckler, 1987; Ulfvebrand, Birgegard, Norring, Hogdahl, & von Hauswolff-Juhlin, 2015). Notably, DSM-5 diagnostic criteria for BED includes *episodes of binge eating that are associated with feeling disgusted with oneself, depressed, or very guilt afterwards* (American Psychiatric Association, 2013). The comorbidity between depressive symptomatology and binge eating is significant to note. For example, Grilo, White, & Masheb (2009) examined psychiatric disorder comorbidity in patients with BED. Using DSM-IV criteria, the authors administered the Structured Clinical Interview for DSM-IV Axis 1 Disorders (SCID-I/P) and the Eating Disorder Examination (EDE) to assess for the presence BED and other co-occurring psychiatric disorders in a sample of 404 participants with BED (310 women, 94 men). Participants were also given

the Beck Depression Inventory to assess for depression. Results indicated that nearly 75% of patients with BED had a lifetime psychiatric disorder diagnosis. Specifically, over 54% of the group had a clinically diagnosed depressive or bipolar disorder in their lifetime. The current rates of comorbidity within this sample indicated that over 26% had a present depressive or bipolar disorder diagnosis. The authors noted that participants with binge eating presentation who had other comorbid psychiatric diagnoses, such as anxiety or substance use disorder, had higher levels of binge eating symptomatology and higher depression scores, when compared to participants with fewer comorbid diagnoses. This study supports extended scholarship that finds significant comorbidity between binge eating and depressive symptomatology.

Research finds that many of the same brain regulation chemicals that are affected by depression are also linked to the chemicals that affect binge eating. As cited by the National Eating Disorders Association, Haedt-Matt & Keel (2011) suggest that people with binge eating disorder often have low levels of serotonin, a neurotransmitter that helps regulate mood and appetite. People experiencing depression are also found to have decreased levels of serotonin. This deficiency can lead to binge eating as a means to also alleviate a depressed mood. Researchers find that BED is also associated with decreased dopamine production, a chemical that regulates pleasure and reward-motivated behavior. People with BED demonstrate increased responsiveness to rewards, including food, which makes eating more pleasurable and increases their susceptibility to binge eating (Bello & Hainal, 2010; Davis, Levitan, Yilmaz, Kaplan, Carter, & Kennedy, 2012).

### ***Theories of the Connection between Depression and Eating Disorders***

Several theories exist that seek to explain the connection between depression and eating disorders. Although mostly based on research that finds comorbidity between anorexia and

depression, Casper (1998) presented three theories that provide speculation on the relationship between eating disorders and depressive disorders. The first theory suggests that there is "an inherent depressive disposition that might pave the way for the eating disorder." For example, eating disorders produce psychological changes to the body (e.g., starvation), in addition to psychological changes (e.g., emotional withdrawal), both of which can lead to depression-like symptoms (Casper, 1998). The second theory suggests that "both eating disorders and depressive disorders might arise from a common foundation". This theory posits that depressive disposition, such as genetic, biological, and psychological factors, are associated with low self-esteem and helplessness, which may trigger an eating disorder. Further, rigorous dieting can trigger an eating disorder and treatment for eating disorders could possibly reveal underlying depression and related symptoms (Casper, 1998). The third theory suggests that "the eating disorder process may expose and set into motion a genetic or biologic vulnerability for depression". For example, a family history of MDD could lead to a predisposition for the same diagnosis or another depressive disorder (e.g., PDD), which could make one more at risk for developing an eating disorder (Casper, 1998).

The present study will explore the relationship between depressive symptomatology and binge eating among a select group of Black women. As previously discussed, Black women experience increased risk for developing both depression and binge eating problems, often associated with numerous environmental stressors, including gendered racism-, classism-, trauma-related stress. Research suggests that binge eating among Black women is connected to these stressors and is found to be used as a coping mechanism for psychological distress and emotional dysregulation. This study seeks to better understand the relationship between

depression, binge eating, and institutionalized racism-related stress among a diverse group of Black women in graduate and professional programs of study.

### **Conclusions and the Current Study**

Building upon earlier research that finds positive associations between racism-related stress, depressive symptomatology, and binge eating as paired variables among Black women, the current study tested the hypothesis that all three variables would be positively correlated among a participant sample of Black women in graduate and professional programs of study. Increased endorsement of racism-related stress was predicted to be associated with both increased levels of depressive symptomatology and binge eating behaviors. In addition, extending prior research that calls for further examination of mediation effects between racism-related stress and overeating and binge eating behaviors among Black women (e.g., Connolly, 2011), the current also assessed the hypothesis that depressive symptomatology may be a possible mediator between racism-related stress and binge eating, such that depression influences the nature of the relationship between racism-related stress and binge eating. More specifically, increased levels of racism-related stress were predicted to lead to increased depressive symptomatology, which in turn was predicted to lead to increased reporting of binge eating among the participant sample. Finally, it was generally predicted that participants would demonstrate high levels of racism-related stress at their current academic institutions related to being minoritized students in graduate and professional programs of study.

### Chapter Three: Method

This section details the method of the current study, including the research design, participants, procedures, and measures utilized to examine the relationship between racism-related stress, depressive symptomatology, and binge eating. Information about participant recruitment and demographic characteristics are described, as well as information about the instruments used to create the survey questionnaire measure.

#### Research Design

The current study used a descriptive, cross-sectional design. Based on previous research, predictions were made regarding the relationship between the variables of racism-related stress (dependent variable), binge eating (independent variable), and depressive symptomatology (mediating variable) among a sample of Black women in graduate and professional programs of study. Three primary hypotheses were predicted. First, participants were predicted to endorse significantly high levels of racism-related stress related to being Black students in their academic institutions and graduate or professional program of study. Second, as shown below in Figures 1-3, positive and significant correlations were predicted to be found between the study variables. Last, as shown below in Figure 4, it was hypothesized that depressive symptomatology would mediate the relationship between racism-related stress and binge eating among participants, such that depression would help clarify the potential relationship between racism-related stress and binge eating among this sample of Black women in graduate and professional programs of study.

Figure 1: Racism-Related Stress and Binge Eating



Figure 2: Racism-Related Stress and Depressive Symptomatology



Figure 3: Depressive Symptomatology and Binge Eating

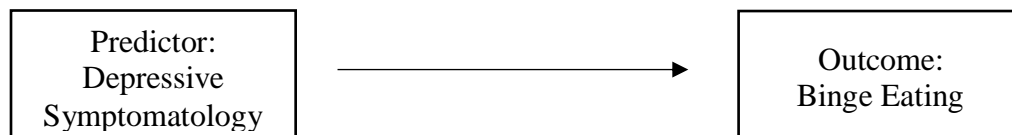
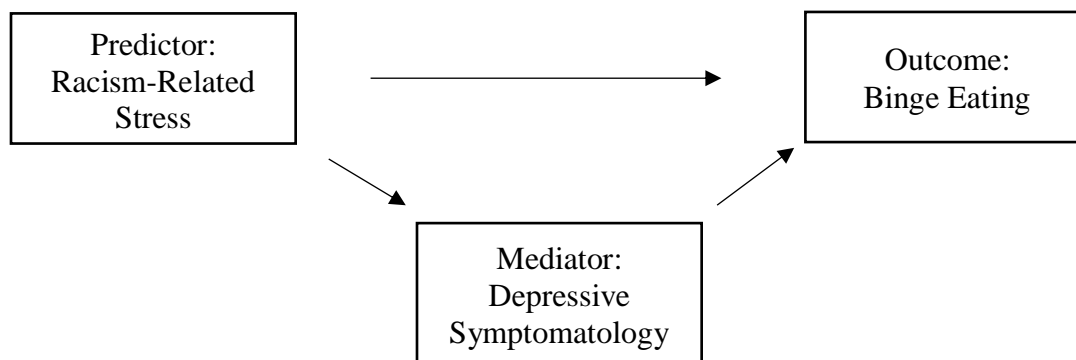


Figure 4: Racism-Related Stress, Depressive Symptomatology, Binge Eating



The sample for the current study was recruited and obtained between December 2018 and February 2019. Participants were recruited using non-probability sampling techniques. First, a purposeful sampling strategy was employed to recruit participants via posts (See Appendix A) in two online Facebook group communities for women of color in graduate and professional programs of study across the United States. Additionally, snowball sampling was used by asking recruited participants to send the survey link to their peers and invite others to participate who fit the inclusion criteria. Participants were included in this study if they identified as being Black/of Afrikan-descent, cisgender and female-identified, were currently enrolled in a graduate or professional program of study in the United States, were at least 18 years of age at the time of the

study and indicated informed consent at the beginning of the study. Weekly reminders were posted in the online Facebook group communities for recruitment and increased respondent participation.

Data were collected from 70 participants. All but two respondents met criteria for race, gender, age, current enrollment in a graduate or professional program of study in the United States, and indication of informed consent at the beginning of the study and their responses were not included in the data analysis. A final sample of 68 participants was obtained. Participants ranged in age from 21 to 68 years old ( $M = 28.11$ ,  $SD = 6.88$ ), with the majority of participants (71%) being between 21 to 29 years old. The next largest group was between 30 to 39 years old (24%) and the remaining group of participants was 40 years old and older (6%) (see Table 1a). Sixty participants (88%) of participants identified as non-parents, while remaining eight participants (12%) identified as parents (see Table 1b).

All participants identified as Black/Afrikan descent cisgender females and the majority of participants (87%) identified solely as 'Black/of Afrikan descent'. In addition to their racial identification of 'Black/of Afrikan descent'; 6 participants also identified as 'Mixed race; multicultural'; 5 participants also identified as 'white'; 3 participants also identified as 'Latino/Hispanic'; and 2 participants also identified as 'Asian/Pacific Islander' (see Table 1c). Most participants did not report or specify an ethnic identity (69%), but remaining respondents identified as being 'Afro-Caribbean'(5 participants), 'Afro-Latinx' (2 participants), 'Ethiopian' (1 participant), 'African-American' (6 participants), 'Haitian' (1 participant), 'Kikuyu' (1 participant), 'Igbo' (1 participant), 'Somali' (1 participant), and 'Yoruba' (1 participant) (see Table 1d). Sixty participants were born in the United States, while eight participants were born in a country outside of the United States, including Guyana, Dominican Republic, Ethiopia,

Trinidad and Tobago, Jamaica, Kenya, and Nigeria (see Table 1e). Regarding sexual identity, fifty-three (78%) participants identified as ‘heterosexual/straight’. Nine participants identified as ‘queer’, ‘questioning’, ‘heteroflexible’ or ‘pansexual’ (13%) and six participants identified as ‘bisexual’ (9%) (see Table 1f).

Participants represented a diverse sampling of graduate and professional programs of study across the United States. Nearly half (49%) of participants were currently enrolled in a Masters degree program, while 44% of participants were currently enrolled in a PhD program. Three participants were enrolled in a professional programs of study. One participant did not specify their degree program type and one participant chose not to report their program due to this being identifiable information (see Table 1g). The majority of participants were in the 2nd year of their program (30%). Nineteen participants (28%) did not report their program year. The remaining participants reporting being in their 1st year (11 participants), 3rd year (10 participants), 4th year (4 participants), 5th year (3 participants), and 6th year (1 participant) (see Table 1h). Forty-five participants (66%) were completing their graduate and professional program of study degree at public academic institutions, while 21 participants (31%) were completing their degree at private academic institutions (see Table 1i).

Institutions were spread across the United States, with the majority of participants (13) endorsing program enrollment at institutions in Washington State, followed by California (11 participants). Other states included Virginia (5), Pennsylvania (4), Arizona (3), Ohio (3), Massachusetts (3), Louisiana (3), New York (2), Georgia (2), Illinois (2), Texas (2), North Carolina (2), New Jersey (2), Connecticut (1), Minnesota (1), Wisconsin (1), Missouri (1), Maryland (1), Iowa (1), District of Columbia (1), Florida (1), Michigan (1), and Kansas (1). These states were grouped into four regions for analysis: West, Midwest, Northeast, and South

(see Table 1j). Graduate and professional programs of study spanned across a diversity of social science, humanities, arts, and science fields, including social work, anthropology, education, sociology, psychology, and law programs.

In order to better understand the racial demographic settings of participants' graduate and professional programs of study, participants were asked to provide an estimated percentage of Black students in their academic institution and an estimated percentage of Black students in their specific program. Estimated percentages varied across both categories. Fifty-three participants provided estimates of the percentage of Black students at their academic institution. Twenty-seven (40%) participants estimated 5% or less, while twenty-six participants (38%) estimated between greater than 5% (see Table 1k). Fifty-six participants provided estimates of the percentage of Black students in their specific program. Twenty-eight (41%) participants estimated 5% or less and twenty-eight participants (41%) also estimated greater than 5% (see Table 1k). Three participants were attending Historically Black Colleges and Universities (HBCUs) and reported significantly higher estimated percentages of Black students in their academic institution and in their specific programs.

To assess for depressive and eating disorder diagnoses, participants were asked to report if they had a current or previous clinical diagnosis of depression or any eating disorder. Fifty-two participants (76%) did not endorse a current or previous clinical diagnosis of depression, while the remaining 16 participants (24%) did endorse either a current or previous clinical depression diagnosis (see Table 1l). All but one participant did not endorse a current or previous clinical diagnosis of an eating disorder, however the remaining participant chose not to respond to this question.

Participants were also asked to report their immediate family's socioeconomic status, their current socioeconomic status, and indication of food security. Reported family socioeconomic status varied across six grouped categories. Nineteen participants (28%) indicated an immediate annual family household income between \$50,000 to 74,999; 13 participants (19%) indicated between \$35,000 to \$49,999; 12 participants (18%) indicated between \$20,000 to \$34,999; 9 participants (13%) indicated less than \$20,000; 9 participants (13%) indicated between \$75,000 to \$99,999; and 6 participants (9%) indicated over \$100,000. Reported current socioeconomic status also varied across grouped income categories. Thirty-one participants (46%) indicated a current annual household income of less than \$20,000; 25 participants (37%) indicated between \$20,000 to 34,999; 6 participants (9%) indicated between \$35,000 to \$49,999; 4 participants (6%) indicated between \$50,000 to \$74,999; 1 participant (1%) indicated between 75,000 to 99,999; and 1 participant (1%) indicated over \$100,000 (see Table 1m). Finally, most participants reported that they were food secure (81%), while 13% reported that they were not food secure and 6% reported that they were unsure if they were food secure (see Table 1n).

Table 1a.

Demo	N	Range	Min	Max	Mean	Mode	SD
<i>Age</i>	68	47	21	68	28.12	24	6.88

Table 1b.

Demo	Non-Parent	Parent
<i>Parental Status</i>	n = 60 (88.23%)	n = 8 (11.76%)

Table 1c.

Demo	Black/of Afrikan descent (alone)	Mixed race/multicultural	White	Latino/Hispanic	Asian/Pacific Islander
<i>Racial Identity</i>	n = 52 (86.76%)	n = 6 (8.82%)	n = 5 (7.34%)	n = 3 (4.41%)	n = 2 (2.94%)

Table 1d.

Demo	None	AA <sup>2</sup>	Afro-Carib bean	Afro-Latinx	Ethiopian	Haitian	Kikuyu	Igbo	Somali	Yoruba
<i>Ethnic Identity</i>	n = 47 (69.12%)	n = 6 (8.24%)	n = 5 (7.35%)	n = 2 (2.94%)	n = 1 (1.47%)	n = 1 (1.47%)	n = 1 (1.47%)	n = 1 (1.47%)	n = 1 (1.47%)	n = 1 (1.47%)

Table 1e.

Demo	U.S.	Nigeria	Dominican Republic	Ethiopia	Trinidad and Tobago	Jamaica	Kenya	Guyana
<i>Country of Birth</i>	n = 60 (88.24%)	n = 2 (2.94%)	n = 1 (1.47%)	n = 1 (1.47%)	n = 1 (1.47%)	n = 1 (1.47%)	n = 1 (1.47%)	n = 1 (1.47%)

Table 1f.

Demo	Heterosexual/Straight	Queer/Questioning/Heteroflexible/ or Pansexual	Bi-Sexual
<i>Sexual identity</i>	n = 53 (77.94%)	n = 9 (13.24%)	n = 6 (8.82%)

Table 1g.

Demo	Masters	PhD	Professional	Not reported
<i>Program Type</i>	n = 33 (48.50%)	n = 30 (44.11%)	n = 3 (4.47%)	n = 2 (2.94%)

Table 1h.

Demo	1st	2nd	3rd	4th	5th	6th	Not reported
<i>Program year</i>	n = 11 (16.17%)	n = 20 (30.44%)	n = 10 (14.71%)	n = 4 (5.88%)	n = 3 (4.41%)	n = 1 (1.47%)	n = 19 (27.53%)

Table 1i.

Demo	Public	Private	Unknown/Not reported
<i>Institution Status</i>	n = 45 (66.18%)	n = 21 (30.88%)	n = 2 (2.94%)

Table 1j.

Demo	West	South	Northeast	Midwest	Not reported
<i>School Region</i>	n = 26 (38.23%)	n = 16 (23.53%)	n = 12 (17.65%)	n = 11 (16.18%)	n = 3 (4.41%)

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<sup>2</sup> African-American

Table 1k.

Demo	5% or less	More than 5%	Not reported/unable to code
<i>Estimated % of Black students at institution</i>	n = 27 (39.71%)	n = 26 (38.24%)	n = 15 (22.06%)
<i>Estimated % of Black students in program</i>	n = 28 (41.18%)	n = 28 (41.18%)	n = 12 (17.65%)

Table 1l.

Demo	No	Yes	Not reported
<i>Current or previous depression diagnosis</i>	n = 52 (76.47%)	n = 16 (23.53%)	n = 0 (0.00%)
<i>Current or previous eating disorder diagnosis</i>	n = 67 (98.53%)	n = 0 (0.00%)	n = 1 (1.47%)

Table 1m.

Demo	<\$20,000	\$20k-\$34,999	\$35k-\$49,999	\$50k-\$74,999	\$75k-\$99,999	>\$100,000
<i>Immediate family household income</i>	n = 9 (13.23%)	n = 12 (17.64%)	n = 13 (19.11%)	n = 19 (27.94%)	n = 9 (13.23%)	n = 6 (8.82%)
<i>Current household income</i>	n = 31 (45.48%)	n = 25 (36.76%)	n = 6 (8.82%)	n = 4 (5.88%)	n = 1 (1.47%)	n = 1 (1.47%)

Table 1n.

Demo	Yes	No	Unsure
<i>Food Secure</i>	n = 55 (80.88%)	n = 9 (13.23%)	n = 4 (5.88%)

## Procedures

IRB approval for this study was received from the University of Washington Human Subjects Division. Participants were invited to participate in the current study through a recruitment flyer and attached post with a survey link in online Facebook group communities for women of color in graduate and professional programs of study. Upon clicking the survey link, participants were redirected to webpage that contained the online survey questionnaire

administered through Catalyst software. Participants were first asked to read an introduction page (see Appendix B) that described the research statement, purposes of the study and inclusion criteria, study procedures, study benefits, participant compensation, potential risks and discomfort, study confidentiality and anonymity, contact information for the primary researcher, and information on mental health resources. Electronic informed consent was obtained at the end of the introduction page. Participants were able to access the survey questionnaire after 'agreeing' to the informed consent clause. Respondents who did not agree to the informed consent clause were redirected to a 'thank you' page at the end of the survey. Compensatory incentive was offered through the form of a raffle entry for one of ten \$10 Amazon.com gift cards. Participants who completed the survey and were interested in entering the raffle were asked to provide their email address to receive their gift card should they be selected as a raffle winner (see Appendix E). Email addresses were moved onto a secure server separate from the survey responses and were not linked with survey responses in order to protect participant anonymity. At the conclusion of the data collection phase (February 2019), ten raffle winners were randomly selected and notified by email to receive their prize. Participants who were not selected as raffle winners were notified by email and thanked for their participation.

## **Measures**

In the current study, participants were asked to complete the following self-report measures (see Appendix C) through an online survey questionnaire: 1) the Patient Health Questionnaire-9 (PHQ-9), a measure for screening, diagnosing, monitoring, and measuring depression severity; 2) \*the Binge Eating Disorder Screener-7 (BEDS-7)<sup>3</sup>, a measure for

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<sup>3</sup> Participants completed the full BEDS-7 only if they endorsed episodes of excessive overeating during the last 3 months. Participants who responded 'no' to this statement were directed to the next measure and did not complete the BEDS-7, as the remaining questions were not applicable. Participants who responded 'yes' to this statement were directed to the remaining BEDS-7 items.

screening adults suspected of having binge eating disorder (BED); 3) the Minority Student Stress (MSS) Scale, a measure of stressors related to being a student of color in a university setting; 4) two qualitative open-response questions generated by the primary researcher that asked participants to describe *a*) in what ways does their identity as a Black woman shape and/or impact how they are treated by others at their current academic institution, and *b*) how these experiences impacted their health and wellbeing; and 5) demographic data information. For all components of the survey, participants were asked to complete a series of questions related to the measure topic and were allowed to skip any questions that they did not wish to answer or stop the survey entirely at any point in the study. After each measure, participants were provided with a list of mental health resources (see Appendix D) if they experienced distress and wanted to contact immediate mental health crisis support. In total, 69 (or 63<sup>4</sup>) items were asked and the survey took participants approximately 10-15 minutes to complete. All measures are described in the following section below.

***Patient Health Questionnaire-9 (PHQ-9).*** Depression and depressive symptomatology were measured using the Patient Health Questionnaire-9 (Spitzer, Williams, & Kroenke, 1999). The PHQ-9 is a widely used, 10-item self-report scale for screening, diagnosing, monitoring, and measuring the presence and severity of depression. The PHQ-9 was developed from the original PHQ, a screening and diagnostic measure for mental health disorders of depression, anxiety, substance use, eating, and somatoform (Kroenke, Spitzer, & Williams, 2001). As described by Spitzer, Kroenke, & Williams (1999), the original PHQ developed as an alternate self-report measure of the Primary Care Evaluation of Mental Disorders (PRIME-MD), a screening instrument for mental health assessments.

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<sup>4</sup> Varied depending on screening results from BEDS-7 measure

Based upon DSM-IV diagnostic criteria, the PHQ-9 incorporates major components of depressive symptomatology including the presence and duration of depressed mood, feelings of guilt and worthlessness, psychomotor retardation, sleep disturbance, appetite dysregulation, and suicidal and self-harm thoughts and ideations (Spitzer, Williams, & Kroenke, 1999). The PHQ-9 is administered using a frequency response scale, by which respondents indicate during the past two weeks how often they were bothered by particular feelings and behaviors on a 4-point scale ranging from 0 (not at all) to 3 (nearly every day).

The items are summed for a total score that can range from 0 to 27. To score items, the total points from each column (1= several days, 2 = more than half the days, 3 = nearly everyday) must be added separately. The total for each column is added together and this yields the total score, which equates to a depression severity score: 5-9 score = minimal symptoms, that could potentially be chronic depression if symptoms have been present for 2 or more years; 10-14 score = minor depression, dysthymia, major depression, mild; 15-19 score = major depression, moderately severe; and >20 score = major depression, severe (Pfizer, 1999).

The PHQ-9 is frequently used in primary care settings and demonstrates high reliability and validity as a measure of depression presence and severity. The PHQ-9 takes minutes to administer and score and is found to be useful in both clinical and research settings. Kroenke, Spitzer, & Williams (2001) assessed the internal reliability of the PHQ-9 by administering the measure to 6,000 patients in 8 primary care and 7 obstetrics-gynecology clinics. The PHQ-9 demonstrated high internal reliability, with a Cronbach's alpha value of 0.89 in the primary care clinic studies and 0.86 in the obstetrics-gynecology clinic studies. The PHQ-9 also demonstrated excellent test-retest reliability. The PHQ-9 also demonstrates high diagnostic validity. Using the

same sample of primary care and obstetrics-gynecology clinics, the developers found that PHQ-9 scores >10 had a sensitivity of 88% and a specificity of 88% for MDD.

The PHQ-9 has been shown to be a reliable and valid depression measure among several sub-group populations, including people of color (Black, Latino/a, and Chinese Americans), seniors, adolescents, lower-income individuals, and people with physical disabilities (e.g., American Psychological Association, 2019; Granillo, 2012; Kneipp, Kairalla, Stacciarini, Pereira, Miller, 2010; Richardson, McCauley, Grossman, McCarty, Richards, Russo, Rockhill, & Katon, 2010) and has been translated into over 30 languages for the general public use (American Psychological Association, 2019).

***Binge Eating Disorder Screener-7 (BEDS-7).*** Binge eating was measured using the Binge Eating Disorder Screener-7 (Shire US Inc, 2014). The BEDS-7 is a brief, 7-item self-report tool used to screen adults who may have binge eating disorder (BED). The BEDS-7 is used to assess for the presence of binge eating behaviors and appropriate referral for diagnostic evaluation and specialist care (Herman, Deal, DiBenedetti, Nelson, Fehnel, & Brown, 2016). The BEDS-7 evaluates both behavioral characteristics of BED (e.g., episodes of excessive overeating) and feelings and cognitions associated with BED (e.g, feelings of disgust or guilt after binge eating episodes).

Each item on the BEDS-7 asks respondents to choose the best answer that applies to their eating patterns and behaviors within the last 3 months. The first question asks respondents to report if they experienced episodes of excessive overeating during the last three months. Respondents who indicate 'no' to this question do not complete the remainder of the screener, as the remaining questions do not apply. Respondents who indicate 'yes' to this question, are asked to continue the remaining BEDS-7 items. All but two of the items on the BEDS-7 are

administered using a frequency response scale, by which respondents indicate within the last 3 months, how often they engaged in particular BED characteristics and patterns on a frequency response scale of 'never or rarely', 'sometimes', 'often', and 'always' (Shire US Inc, 2014).

The BEDS-7 is not scored for BED diagnosing, but respondents' answers are used to determine if they are suspected of having BED and referral to appropriate services for diagnostic evaluation. As described by the developers, if the respondent indicates 'yes' to Question 2 (do you feel distressed about your episodes of excessive overeating?) and selects one of the shaded boxes for all Questions 3-7 (see Appendix F), the clinician should discuss the respondent's eating behaviors and their feelings about these eating patterns. Additional evaluation using the DSM-5 diagnostic criteria for BED should be considered (Shire US Inc, 2014). Although not intended by the developers, the current study will assign values to the frequency response scale for Questions 3-7 (0 = never or rarely, 1 = sometimes, 2 = often, and 3 = always) and a summed total score that can range from 0 to 15 will be assigned to each participant in attempt to create a BED symptom severity score. Question 7 will be reversed scored, as vomiting does not meet diagnostic criteria for BED.

The BEDS-7 was developed in three phases. The first phase involved the development of a 20-item BEDS-7 tool using DSM-5 diagnostic criteria for BED, existing tools that assess for BED, and consultation among 3 clinical experts. The second phase refined this tool into a 13-item tool using pilot cognitive debriefing interviews with 13 participants who endorsed self-reported symptoms of BED. The selected 13-items presented each of the DSM-5 diagnostic criteria for BED. The final phase required cross-sectional quantitative evaluation of the measure items based on input from 97 participants with and without self-reported BED symptoms. This sample was also administered the Binge Eating Scales (BES) and the RAND 36-item Short-Form

Health Survey. Based on these findings, the developers consolidated the BEDS-7 into its current 7-item measure (Herman et al., 2016).

The BEDS-7 is found to maximize sensitivity of BED diagnosis to 100%, while preserving the DSM-5 diagnostic criteria (Herman et al., 2016). The BEDS-7 also presents as a shorter, efficient measure of BED compared to the 16-item BES, while holding similar sensitivity and specificity. Although the BEDS-7 could hold similar psychometric properties to the BES, which demonstrates strong internal consistency (chi-squared tests for the 16-items were higher than 9.1,  $p < .01$ ), continued research is needed to assess the validity and reliability of the BEDS-7.

***Racism-Related Stress.*** Racism-related stress was operationalized and measured using the Minority Student Stress (MSS) Scale, a 33-item measure developed by Smedley, Myers, and Harrell (1993). The MSS Scale combines items from previous generic student stress scales and issues generated from a pilot sample of undergraduate students of color to conceptualize the unique stressors students of color often encounter in university settings. The MSS scale asks respondents to rate items on a six-point stress scale that ranges from 0 (does not apply) to 5 (extremely stressful). Items include student of color specific stressors such as: “Too many people of my race are employed in low-status jobs at the university”, and generic student stressors such as: “Being the first from my family to attend college” (Smedley, Myers, and Harrell, 1993).

The MSS scale incorporates five sub-scale factors determined stable and reliable by the developers. These factors are: the 11-item Social Climate Stresses factor (Cronbach's alpha value = 0.93), 55-point maximum total score; the 7-item Interracial Stresses factor (Cronbach's alpha value = 0.85), 35-point maximum total score; the 5-item Racism and Discrimination factor

(Cronbach's alpha value = 0.87), 25-point maximum total score; the 4-item Within-group Stresses factor (Cronbach's alpha value = 0.78), 20-point maximum total score; and the 6-item Achievement Stresses factor (Cronbach's alpha value = 0.76), 30-point maximum total score. Items from each factor are added to develop five minority status stress scores, with higher scores indicating greater minority stress (Smedley, Myers, & Harrell, 1993). Sub-scale scores can range from 0 to 55, based on the individual scale, and the total MSS score can range from 0 to 165. Each sub-scale is scored separately to determine the degree of perceived stress associated with the specific factor, and also averaged together to yield a total minority-status stress score.

As discussed by the developers, the MSS scale has been validated with Black, Chicano/Mexican-American, Indigenous American, and Filipino students and demonstrates great internal validity and reliability with sub-scale Cronbach's alpha values that ranged from 0.76 to 0.93, and a total score Cronbach's alpha of 0.93 that accounts for 58% of common variance (Smedley, Myers, and Harrell, 1993). Another study determined a Cronbach's alpha of 0.93 and reported high validity for the MSS scale, as demonstrated by positive correlations with racism-related stress and emotional distress for Asian American students (Liang, Li, & Kim, 2004; as cited in Wei, Ku, & Liao, 2011).

Although the MSS scale was normed on undergraduate student populations, it was suspected the measure items would also resonate with graduate and professional program of study student populations. To the author's knowledge, the current study is one of the first to use the MSS scale among a sample population of Black women in graduate and professional programs of study. Many of the MSS scale items pertaining to the unique challenges students of color experience on college campuses, such as racism and discrimination and social climate stresses, were speculated to be present among Black students in graduate school settings.

The current study administered the MSS scale in full, while modifying some language for congruency and social justice practice (see Appendix C). For example, the term "ethnic" was changed to "racial" throughout the measure for congruency; Item 10 was modified to change "minority student" to "student of color" to de-center 'whiteness' as the common default by which people of color are subjected; the term "White" was de-capitalized to "white" in all items to challenge the power associated with 'whiteness' and its implied superiority; and Item 27 was modified to change "males and females" to "students" to challenge heteronormativity as the default relationship status.

***Additional Gendered Racism-Related Stress Measures.*** The primary researcher developed two qualitative open-ended response questions that asked respondents to describe *a*) in what ways does their identity as a Black woman shape and/or impact how they are treated by others at their current academic institution, and *b*) how these experiences impacted their health and wellbeing. Emergent thematic coding was used to identify common themes to explore how participants believe that their gender and racial identity influences their experiences in their program and how these experiences influence their physical, psychological, and emotional health outcomes. Grounded theory was used by the primary researcher to identify common qualitative themes that identified how gendered racism-related stress impacts the health of the participant sample.

***Demographic Characteristics.*** Using a modified demographic questionnaire from Talleyrand (2002) (as used and cited by Connolly, 2011), participants were asked to provide the following demographic information: age, gender identity, racial identity, ethnic identity (if applicable), country of birth, name and city of their academic institution, public or private status of their academic institution, degree program and year, estimated percentage of Black graduate/

professional programs of study students at their academic institution and in their specific program, parental status, if they currently have or have had a clinical diagnosis of depression, if they currently have or have had a clinical diagnosis of an eating disorder, immediate family household income, their current household income, and indication of food security. These characteristics were used to describe the participant sample and to determine if there were associations between racism-related stress, depressive symptomatology, and binge eating in relation to these demographic characteristics.

## **Chapter Four: Results**

This chapter will detail the results of the current study. First, an overview of inclusion criteria and the management of missing data will be described. Next, descriptive statistics findings for the study variables (racism-related stress, depressive symptomatology, and binge eating behaviors) will be presented, followed by the presentation of correlation analyses between the study variables. Next, stepwise regression analyses will be presented to test the hypothesis that depressive symptomatology mediates the relationship between racism-related stress and binge eating. Last, the relationship between select demographic characteristics (estimated percentages of Black students in participants' academic institution and specific graduate or professional program of study, current and immediate family household income, age, degree program type, public vs. private school status, and school region) and the study variables will be explored.

### **Inclusion Criteria and Missing Data**

Participants were included in this study if they identified as being Black/of Afrikan-descent, cisgender and female-identified, were currently enrolled in a graduate or professional program of study in the United States, were at least 18 years of age at the time of the study and indicated informed consent at the beginning of the study. Two participants were excluded from the analysis, as they did not meet eligibility criteria. One participant was currently completing a graduate degree program in the United Kingdom and another participant declined agreement to 'informed consent' at the beginning of the study and was redirected to the end of the survey.

For each study variable, participants with missing data were included in the data analyses. The PHQ-9 yielded three missing responses initially coded as '999' in SPSS software. In order to include these participants and their remaining responses in the analysis, these missing

values were re-coded as '0' values. The BEDS-7 screens individuals suspected of having binge eating disorder (BED). The first question 'During the last 3 months, did you have any episodes of excessive overeating (i.e., eating significantly more than what most people would eat in a similar period of time)?' determined whether respondents completed the remainder of the screener. In this study, if participants indicated 'yes' to this question, they were directed to the remainder of the screener. If participants indicated 'no', they did not complete the remaining BEDS-7 items and were directed to the following study measure. In total, 37 participants (54% of the sample) completed the full BEDS-7 screener. Of those who completed the BEDS-7, only one missing value was yielded that was initially coded as '999' in the data set. In order to include this participant and their remaining responses in the analysis, this missing value was re-coded as a '0' value. The MSS Scale yielded six missing responses initially coded as '999'. In order to include these participants and their remaining responses in the analysis, these missing values were also re-coded as '0' values. The total sample size was 68 for the PHQ-9 and MSS analyses, while the sample size decreased to 37 in the BEDS-7 analyses. The total sample size varied for the demographic characteristic analyses, depending on what information participants opted to report.

### **Descriptive Statistics**

Descriptive statistics, including measures of central tendency and internal reliability for each study variable were determined (see Table 2). The following section will explore these statistics for each study variable.

Table 2  
*Descriptive Statistics for Study Variables*

Variable	N	Range	Min	Max	Mean	Mode	SD
PHQ-9 (depressive symptomatology)	68	24	0	24	8.75	13	5.53
BEDS-7 (binge eating)	37	10	5	15	8.95	7, 10	2.73
MSS Scale (racism-related stress)	68	163	2	165	85.16	3	38.50

**Depressive symptomatology.** Depressive symptomatology scores as assessed by the PHQ-9 (Spitzer, Williams, & Kroenke, 1999; see Appendix C) ranged from 0 (minimal or no depression) to 24 (severe depression). Descriptive statistics indicated a mean score of 8.75 ( $SD = 5.53$ ), which falls into the ‘mild depression’ scoring category. Frequency analyses indicated that the majority of participants (22) scored in the ‘mild depression’ category (32%), followed by either ‘minimal or no depression’ (27%) and ‘moderate depression’ (27%). Eight participants (12%) scored in the ‘moderately severe depression’ category and 2 participants (3%) scored in the ‘severe depression’ category. The vast majority of participants (88%) endorsed no suicidal or self-harm thoughts, as assessed by Question 9 on the PHQ-9. Six participants (9%) endorsed ‘several days’ having these thought during the past two weeks, 1 participant endorsed ‘more than half the days’, and 1 participant endorsed ‘nearly every day’. Question 10 on the PHQ-9 asks respondents to indicate how ‘difficult these problems have made it for respondents to do their work, take care of things at home, or get along with other people.’ The majority of participants (46%) indicated that their depressive symptomatology makes it difficult for them to do these tasks ‘several days’ out of the week. Seventeen participants (25%) reported that their depressive symptomatology makes it ‘not at all’ for them to complete these tasks. 10 participants (15%) indicated that they find it difficult to complete these tasks ‘more than half the days’ and 9 participants (13%) reported ‘nearly every day’. One participant chose not to respond to this

question. In the current study, the Cronbach's alpha yielded a .85, which indicates good internal consistency. This demonstrates consistency with previous research that finds high internal consistency of at least .86 (Kroneke, Spitzer, & Williams, 2001).

***Binge eating behaviors.*** Binge eating symptomatology as assessed by the BEDS-7 (Shire US Inc, 2014; see Appendix C) was scored according to binge eating severity. Although not done by the tool developers, the primary researcher assigned scores to questions 3-7 on the BEDS-7 screener to correspond to binge eating severity with lower scores indicating less severity. For questions 3-6, 'never or rarely' responses were scored as 0; 'sometimes' responses were scored as '1', 'often' responses were scored as 2; and 'always' responses were scored as '3'. Question 7 was reversed scored, as responses of 'often' or 'always' were not indicative of binge eating symptomatology (i.e., vomiting as a means to control weight or shape), unlike the other items. 'Never or rarely' responses were scored as 3, 'sometimes' responses were scored as 2, and 'often' and always' were scored as 0. The scores from Questions 3-6 and the score from Question 7 were added together for a total BEDS-7 score. According to this scoring system, possible scores ranged from 0 to 15, with higher scores suggesting greater binge eating symptomatology and severity. Thirty-seven participants completed the BEDS-7 screener. Descriptive statistics indicated a mean score of 8.95 ( $SD = 2.74$ ), with a minimum score of 5 and a maximum score of 15, and a mode of 7 and 10. Although this scoring system does not permit a breakdown according to degree of binge eating severity (e.g., mild, moderate, severe), measures of central tendency possibly indicate binge eating behaviors that are mild to moderate in degree and severity. As noted in the previous chapter, the BEDS-7 maximizes sensitivity of BED diagnosis to 100%, while also maintaining the DSM-5 diagnostic criteria for BED (Herman et al., 2016). The BEDS-7 is a shorter measure of BED compared to the older 16-item Binge

Eating Scale (BES; Gormally et al., 1982), yet is found to hold similar sensitivity and specificity. While the BES demonstrates strong internal consistency (chi-squared tests for the 16-items were higher than 9.1,  $p < .01$ ), continued research is needed to assess the validity and reliability of the BEDS-7 (Herman et al., 2016). In the current study, the Cronbach's alpha yielded a .72, which indicates acceptable, but low, internal consistency.

***Racism-Related Stress.*** Racism-related stress scores as assessed by the Minority Student Stress (MSS) Scale (Smedley, Myers, & Harrell, 1993; see Appendix C) ranged from 2 to 165, with higher scores indicating greater endorsement of stress related to being a student of color in college. The MSS scale consists of five subscale stress factors, including social climate stressors, interracial stressors, experiences of racism and discrimination, within group stressors, and achievement stresses. Descriptive statistics indicated a total mean MSS score of 85.16 ( $SD = 38.49$ ). As the MSS scale developers do not provide categorical score breakdowns, in order to better understand how participants scored on this study variable, the primary researcher divided scores into 5 frequency score groupings: '0-32', '33-65', '66-99', '100-132', and '133-165', with higher scores indicating increased endorsement of stress related to being Black students. The majority of participants (34%) scored between 66-99 on the MSS scale. Eighteen participants scored between 100-132 (27%). Ten participants (15%) scored between 33-65, nine participants (13%) scored between 0-32, and the remaining 8 participants (12%) scored between 133-165. In the current study, the Cronbach's alpha yielded a .95, which is comparable to the Cronbach's alpha value of .93 obtained by the measure developers that accounts for 58% of common variance (Smedley, Myers, and Harrell, 1993). In contrast to the hypothesis that participants would demonstrate significantly high racism-related stress scores (i.e., values closer to the 165

possible total score), participants demonstrated a normally distributed range of self-reported racism-related stress related to being a Black student at their current academic institution.

*MSS Subscales.* Possible total scores on the subscales ranged from 0-55, with higher scores indicating a greater endorsement of stress related to the specific subscale. The ‘Racism and Discrimination’ stresses ( $M=13.76$ ,  $SD=7.56$ ) and the ‘Social Climate’ stress ( $M=30.24$ ,  $SD = 14.65$ ) subscales were endorsed as the most stressful factors, with high Cronbach's alpha values of .89 and .93, respectively. The ‘Interracial’ stresses ( $M=17.22$ ,  $SD = 10.19$ ) and the ‘Achievement’ stresses ( $M=14.93$ ,  $SD = 8.08$ ) were the second endorsed most stressful factors, with high Cronbach's alpha values of .91 and .76, respectively. Finally, the ‘Within Group’ stresses subscale was endorsed as the least stressful factor, with an average participant score of 9.01 ( $SD = 6.20$ ). This subscale factor yielded high internal consistency, with a Cronbach's alpha value of .83.

### **Relationships between Study Variables**

To test the hypothesis that all three study variables (depressive symptomatology, binge eating, and racism-related stress) would be significantly and positively related, correlations were computed to assess the measures of these linear relationships.

Table 3  
*Pearson Correlations between Study Variables*

Study Variable		PHQ9TOTALSCORE	BEDS7TOTALSCORE	MSSTOTALSCORE
PHQ9TOTALSCORE	Pearson Correlation	1	-.015	<b>.380*</b>
	Sig. (2-tailed)		.927	.001
	N	68	37	68
BEDS7TOTALSCORE	Pearson Correlation	-.015	1	-.038
	Sig. (2-tailed)	.927		.824
	N	37	37	37
MSSTOTALSCORE	Pearson Correlation	<b>.380*</b>	-.038	1
	Sig. (2-tailed)	.001	.824	
	N	68	37	68

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

As shown in Table 3, correlational analyses computed among all participants demonstrate that depressive symptomatology was significantly and positively correlated with racism-related stress ( $r = .38, p < .01$ ). Participants who scored higher on the PHQ-9 endorsed higher levels of racism-related stress as related to being a Black student at their university, while participants

who scored lower in the PHQ-9 endorsed lower levels of racism-related stress. Correlational analyses computed only among participants who completed all three measures ( $n = 37$ ) also demonstrated a significant and positive correlation between depressive symptomatology and racism-related stress ( $r = .43, p < .01$ ).

In contrast to the second hypothesis, correlational analyses did not demonstrate significant relationships between the remaining study variables. These results were not expected provided the literature on the correlational association between experiences of racism and discrimination and binge eating behaviors, in addition to the known associations between depressive symptomatology and binge eating behaviors. No significant correlational relationships between the remaining study variables were also demonstrated among participants who completed all three measures ( $n = 37$ ). It is hypothesized that due to the smaller participant sample size within the binge eating study variable, this reduced the statistical power of the correlational analyses between this variable and the depressive symptomatology and racism-related stress study variables.

To test the third hypothesis that depressive symptomatology mediates the relationship between racism-related stress and binge eating, a stepwise regression analysis was conducted using mediation analysis methodology as suggested by Baron and Kenny (1986). Depressive symptomatology scores (mediator) were first regressed on binge eating scores (independent variable). In contrast to predictions, racism-related stress scores alone did not significantly predict binge eating scores in the first model,  $\beta = -.003, p = .834$ . As a result, the additional steps to identify a mediation relationship recommended by Barron and Kenny (1986) were not carried out.

## **Relationships between Study Variables and Demographic Characteristics**

To conceptualize the relationships between the study variables (depressive symptomatology, binge eating, and racism-related stress) and select participant demographic characteristics (perception of estimated percentages of Black students in participants' academic institution and program; reported current and family socioeconomic status; age; degree program type; and school region) independent t-tests and ANOVAS were conducted to determine if there were statistically significant differences between groups of participants. As demonstrated above, the other demographic variables, including racial and ethnic identity (in addition to Black/of Afrikan descent), country of birth, parental status, current or previous diagnosis of depression or an eating disorder, and indication of food security were homogenous in reporting and therefore were not included in further analyses.

### ***Estimated Percentage of Black Students in Academic Institution and Academic Program***

Participants were asked to report the estimated percentages of Black students in their academic institution and in their specific academic program. Raw score responses were re-coded into 'less than 5%' and 'more than 5%' based on response frequency data. Independent sample t-tests revealed significant differences in racism-related stress scores between participants who reported that Black students comprised less than 5% of their academic institution and participants who reported that Black students comprised more than 5% of their academic institution. Participants who reported that Black students comprised less than 5% of their institution had significantly higher scores on the MSS scale than participants who indicated more than 5%,  $t(54) = 2.412, p < .05$ . Independent sample t-tests revealed significant differences in racism-related stress scores between participants who reported that Black students comprised less than 5% of their specific academic program and participants who reported that Black

students comprised more than 5% of their academic program. Participants who reported that Black students comprised less than 5% of their program also had significantly higher scores on the MSS scale than participants who indicated more than 5%,  $t(54) = 2.439$ ,  $p < .05$ .

Independent sample t-tests revealed no significant differences in depressive symptomatology and binge eating according to estimated percentages of Black students in participants' academic institutions and academic programs.

### ***Current and Immediate Family Household Income***

A series of ANOVAS were conducted to determine if participants' reported depressive symptomatology, binge eating, and racism-related stress scores differed according to their reported current and family household incomes. No significant differences were found at the  $p < .05$  significance level.

### ***Age***

A Pearson correlation was conducted to assess the relationship between participant age and depressive symptomatology, binge eating, and racism-related stress scores. Participant age was not significantly correlated to the study variables. To further assess for differences according to age, participant responses were split into two groups: participants under 30 years old ( $n = 48$ ) and participants 30 years old and older ( $n = 20$ ). Independent samples t-tests revealed no significant differences between the two groups across the study variables at the  $p < .05$  significance level.

### ***Degree Program Type and Public/Private Institution Status***

An ANOVA was conducted to determine if participants' reported depressive symptomatology, binge eating, and racism-related stress scores differed according to degree program type (Masters, PhD, or Professional Studies). No significant differences were found at

the  $p < .05$  significance level. An independent sample t-test also revealed no significant differences between depressive symptomatology, binge eating, and racism-related stress scores according to public or private institution status at the  $p < .05$  significance level.

### ***School Region***

An ANOVA was conducted to determine if participants' reported depressive symptomatology, binge eating, and racism-related stress scores differed according to school region. Schools were grouped into four regional categories according to location: West, Midwest, Northeast, and South. Analyses revealed significant differences in racism-related stress between participants, such that participants attending academic institutions in the West reported higher scores on the MSS scale ( $M = 99.50$ ,  $SD = 33.37$ ) compared to participants attending institutions in the Midwest ( $M = 76.82$ ,  $SD = 39.50$ ), Northeast ( $M = 82.25$ ,  $SD = 40.28$ ), and South ( $M = 64.19$ ,  $SD = 35.60$ ),  $p < .05$ . There were no significant differences between depressive symptomatology and binge eating scores according to school region.

### **Qualitative Data Analysis**

Participants were asked to respond to two open-ended questions regarding their experiences as Black women at their current academic institution, and subsequently, if and how these experiences impact their health and wellbeing. The following section will report recurring responses extracted from this qualitative data.

The first question asked participants, *"In what ways does your identity as a Black woman shape and/or impact how you are treated by others (e.g., professors, peers, etc.) at your current academic institution? If not applicable, write N/A."* Fifty-seven participants (84%) provided a response to this question, while remaining participants chose either not to respond or felt that the question was not applicable to their experience and responded "N/A".

Using a grounded theory approach, responses were grouped into patterns of recurring themes observed throughout the dataset. Four themes emerged as the most frequent ways that participants' identities as Black women shape and impact how they are treated by others at their academic institution: 1) *Combating negative stereotypes frequently assigned to Black women*; 2) *Feelings of tokenization and being the representative "Black voice" in white spaces*; 3) *Experiences of anti-Black racism and microaggressions*; and 4) *Navigating white peers' discomfort and sensitivity during conversations and interactions* (Table 4).

Table 4.

*Most frequently reported themes in response to open-ended question: In what ways does your identity as a Black woman shape and/or impact how you are treated by others (e.g., professors, peers, etc.) at your current academic institution?*

Theme	
<i>Stereotypes</i>	<p>Example:</p> <p><i>“Well, since I am the only black woman in my current cohort, I feel that I have to be invisible. For instance, if I get frustrated or upset, I shouldn't "act out". I don't want my cohort to think that I fit the black woman stereotype.”</i></p>
<i>Tokenism</i>	<p>Example:</p> <p><i>“I believe there is an expectation that I will bring in the “black experience” into the classroom. It can feel tokenizing and there is a lack of realization that all peoole [people] (even of the same race) may have different life experiences.”</i></p>
<i>Racism and Discrimination</i>	<p>Example:</p> <p><i>“I have been discriminated against several times. I have been passed up for several scholarship[s] because of my race (they were given to a white woman). I have also been micoagressed [microaggressed] against several times.”</i></p>

*Navigating white peers' discomfort*

Example:

*"As a Black woman, I believe others treat me with respect but there are times when they don't know how to approach me. Some of our encounters are weird. I feel as if they're trying too hard just to have a simple conversation. And often times [oftentimes], certain subjects are avoided in conversation such as politics or differences in culture because they don't want to be offensive. When they finally get over the awkwardness and I make friends, everything is great."*

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### ***Combating Negative Stereotypes Frequently Assigned to Black Women***

Nearly one-fourth of participants (23%) who responded to this question indicated that they frequently combat negative stereotypes often assigned to Black women, including the controversial image of the “angry Black woman”. Many participants described feelings of worry associated with representing this stereotype in predominantly white academic spaces and the need to monitor their behaviors and conversations, accordingly. One participant described her worry associated with “fulfilling” the “angry Black woman” stereotype:

*“Well, since I am the only black woman in my current cohort, I feel that I have to be invisible. For instance, if I get frustrated or upset, I shouldn't "act out". I don't want my cohort to think that I fit the black woman stereotype.”*

Another participant also spoke to how her behavior is influenced by her academic environment, particularly the stereotyped targeting of Black women:

*“My identity as a Black woman is important to everything I do. I have to monitor what I say and how I say it so I don't come off as aggressive. I make sure what I wear and my hair is presentable to a white community standard and I hold my tongue a lot of the time in fear of repercussions [repercussions].”*

Participants also described several other racialized stereotypes that they combat in their current academic institution. One participant described experiences of “*white professors questioning my ability to pay for graduate applications... white classmates assume I must be disadvantaged because I am black.*” Others described low academic expectations set by surrounding faculty and students, in addition to a stereotyped expectation that Black women “talk more” and do not experience anxiety or want to be quiet in the classroom setting.

***Feelings of tokenization and being the representative “Black voice” in white spaces***

Many participants also reported feeling tokenized in their academic program. Participants described a seemingly implicit expectation set by white peers and faculty to “represent” a Black person perspective in the classroom. One participant endorsed this experience as quoted below:

*“My professors look as me to be a constant voice in the class. Also, no one thinks I have feelings of discomfort and frustration after I’ve challenged one of my white peers.”*

Another participant described similar sentiments of tokenization, noting that people, regardless of racial identity, indeed have varying perspectives and lived experiences.

*“I believe there is an expectation that I will bring in the “black experience” into the classroom. It can feel tokenizing and there is a lack of realization that all people [people] (even of the same race) may have different life experiences.”*

Other participants also described being tokenized in their academic programs, particularly the presumed responsibility that they are required to “validate” [white] peers learning” and a frustration and fatigue associated with being a “voice of reason” in classroom discussions around racial and social justice themes.

### *Experiences of anti-Black racism and microaggressions*

Anti-Black racism and microaggressions is another recurring theme that participants indicated experiencing in their academic institutions. Some participants described explicit examples of targeted explicit racist acts, while others described verbal snubs and insults often described as microaggressive assaults. One participant shared her experiences of racial discrimination in academic program:

*“I have been discriminated against several times. I have been passed up for several scholarship[s] because of my race (they were given to a white woman). I have also been micoagressed [microaggressed] against several times.”*

Another participant described her encounters with microaggressions from peers and professors at predominantly white institutions or PWIs:

*“Instead of people expecting you to be intelligent and intellectually insightful, they are surprised and say things like “you’re quite articulate” or “you speak well”. People are surprised by your ability to do the same or better than everyone else. As a Blaxk woman at a PWI it’s veey [very] hard to keep your culture and have a strong bond with classmates. Professors tend to count you out or feel like you’re overachieving when performing or wanting to perform well.”*

Some participants also reported other personal experiences of anti-Black racism and microaggressions, including for example opportunities being terminated due to discrimination and feelings of “dismissal”, particularly when one must determine if it is safe to challenge a racialized assault in the classroom.

***Navigating white peers' discomfort and sensitivity during conversations and interactions***

The final theme describes participants who reported navigating the discomfort and hypersensitivity projected from their white peers. Several participants reported that they often notice that white students have a difficult time engaging with Black students and this in turn impacts interracial interactions on campus. For example, one participant described her experiences as quoted below:

*"I think sometimes white people on campus talk to me in a way like they are trying to be careful about what they say. I always feel like I have to be very mindful of my surroundings and watch what I do or say."*

Another participant also described "awkward" engagement with white students at her institution, including discomfort around addressing political and cultural beliefs:

*"As a Black woman, I believe others treat me with respect but there are times when they don't know how to approach me. Some of our encounters are weird. I feel as if they're trying too hard just to have a simple conversation. And often times [oftentimes], certain subjects are avoided in conversation such as politics or differences in culture because they don't want to be offensive. When they finally get over the awkwardness and I make friends, everything is great."*

The next question asked participants, *"Based on your response to the previous question, do you believe that these experiences impact your health and wellbeing - including physical, emotional, and psychological? If so, in what ways? If not applicable, write N/A."* Fifty-seven participants (84%) provided a response to this question. Ten participants (15%) chose either not to respond or felt that the question was not applicable to their experience and responded "N/A".

Three participants (5%) responded “no”, indicating they do not believe that their reported experiences from the previous question impact their health and wellbeing.

Using a grounded theory approach, responses were grouped into patterns of recurring themes observed throughout the dataset. Three themes emerged regarding how frequently participants believe that their experiences as Black women and engagement with others at their current academic institutions impact their health and wellbeing: 1) *Feelings of general stress and emotional distress*; 2) *Experiences of anxiety and related symptoms*; and 3) *Sensations of bodily, physical, and/or somatic symptoms* (Table 5).

Table 5.

*Most frequently reported themes in response to open-ended question: “Based on your response to the previous question, do you believe that these experiences impact your health and wellbeing - including physical, emotional, and psychological? If so, in what ways?”*

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Theme	Example:
<i>Emotional Distress</i>	<p><i>“[Y]es, it is stressful, [it] impacts my whole well-being. I feel that I have battled depression, stress, gained and lost weight in the process. It isnt [isn't] something that feels good.”</i></p>
<i>Anxiety</i>	<p><i>Example:</i></p> <p><i>“It is just draining emotionally. It's difficult being in this position navigating two worlds. Academia vs home. Academia at this level is treacherous and can eat [eat] you alive. I find myself needing to check out and to recalibrate. I've also had to go to therapy to address anxiety issues that are related to perfectionism and identity as a black woman [.]”</i></p>
<i>Bodily, physical, and/or somatic symptoms</i>	<p><i>Example:</i></p> <p><i>“I do feel like my experiences impact my [me] physically and mentally. During a summer course I was extremely stressed and started to experience chest pains. Now whenever I feel pressured from school I start to experience somatic symptoms of stress.”</i></p>

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### ***Feelings of General Stress and Emotional Distress***

More than half of participants (56%) who responded to this question indicated that their experiences in their current academic program lead to feelings of stress, particularly emotional and psychological tension. Many participants described a negative psychological impact and

emotional distress that they regularly experience in predominantly white academic spaces. One participant described the impact that this has on her:

*“Yes. I don't feel comfortable talking in class at times, I also sometime sense faculty feel "awkward" maybe uncomfortable interacting with me because I am on [one] of the only black women in the program. It's difficult being a student at a PWI. There is no sense of belonging when you are constantly surrounded by people who do not look like you. That impacts your mental and emotional health. Not only am I dealing with stress of being a student but also coupled with race-related stress.”*

Another participant also spoke to how the stressors of being at her current academic institution have impacted her emotional health:

*“Absolutely, I attend a predominantly white evangelical institution that led me to experience immense culture shock my first year. I recall crying almost every night, feeling exceptionally misunderstood and having difficulty in my faith (which had been a positive source of comfort to me up until [until] that point). While, I've been able to make some adjustments I feel the wounds still bleed because I'm constantly surrounded by the stressors, microaggressions, stereotypical responses and discrimination. It's frustrating to have to study my own people group and develop [develop] terms in research to explain my existence, my perspective and my interests and also study my regular course material. It's as though I'm getting two degrees, one which is an independent study with no guidance and the other lacking reflections of myself.”*

Notably, a few participants also described feelings of depression and related challenges as they spoke to their experiences of emotional distress:

*“Yes. As a result of not having strong connections with my cohort I became distant and often isolated which led to depressive thoughts. I would go out to eat by myself or go have drinks at the local bar alone. The daily eating out and drinking alcohol caused me to gain about 30 pounds in my first year.”*

*“[Y]es, it is stressful, [it] impacts my whole well-being. I feel that I have battled depression, stress, gained and lost weight in the process. It isn't [isn't] something that feels good.”*

*“My depression and anxiety symptoms interfere with my ability to focus, answer emails, and meet deadlines. It would seem I am unprofessional and not ready. My disability seems invisible and I spent time having to convince people that I am struggling and need help. I am afraid of seeking help because I might be judged or pushed out of the program.”*

### ***Experiences of anxiety and related symptoms***

As noted in the quote above, many participants also reported feelings of anxiety and anxious distress related to being a Black women in their current academic institution. Participants described feelings of worry related to a variety of experiences in their program, including academic performance, expectations set by colleagues, navigating Black identity within a PWI, and anxiety due to poor supervisory support. One participant wrote about the emotional toll she experiences in the contrast between academia and home:

*“It is just draining emotionally. It's difficult being in this position navigating two worlds. Academia vs home. Academia at this level is treacherous and can eat [eat] you alive. I find myself needing to check out and to recalibrate. I've also had to go to therapy to*

*address anxiety issues that are related to perfectionism and identity as a black woman  
[.]”*

Another participant disclosed her battles with anxiety and the overall impact that her program has had in her personal and academic life:

*“Yea. Makes me stressed physically and mentally. I feel like I need significant amount of time to process difficult conversations in class (especially ones that I feel affect me or a group that I identify with personally). This can bleed into other activities in my day too. It is also very taxing for me to try to heal my communities of color and myself from white supremacy. I also have anxiety and take medicine for it.”*

Anxiety was a pervasive theme throughout the participant responses when asked to describe how their experiences in their academic program manifest in their health and wellbeing. This theme will be explored further in Chapter V.

### ***Sensations of bodily, physical, and/or somatic symptoms***

Finally, several participants also reported that they frequently experience bodily, physical, and/or somatic symptoms in response to the stressors of being a Black woman in their academic program. For example, participants described bodily aches and pains, immune system deficiencies, and relevant to the current study, overeating and binge eating behaviors. One participant described her experiences of overeating, weight gain, and anxiety below:

*“It has taken a toll on my physical and emotional health. I have become an impulse over-eater and have multiple panic and anxiety attacks per week. As a result I have gained 30 pounds in the past 3 years of my phd program and have little to no confidence in my research topic.”*

Another participant wrote about somatic symptoms of stress, including chest pains:

*“I do feel like my experiences impact my [me] physically and mentally. During a summer course I was extremely stressed and started to experience chest pains. Now whenever I feel pressured from school I start to experience somatic symptoms of stress.”*

The onset of other physical symptoms was also reported by some participants. For example:

*“It definitely impacts in all ways. I feel tense and my shoulders and back ache. I often times suppress my real feelings that may end up blowing up at another time.”*

The next chapter will further discuss the findings of the current study, in addition to their theoretical and practical implications and directions for future research.

## Chapter Five: Discussion

Over the past decades, developing research has continued to explore how racism and racism-related stress impacts the health and wellbeing of persons of color, particularly persons of Afrikan descent in the United States. Based on critical findings, many scholars suggest that anti-Black racism need be addressed as an issue of public health. As previously highlighted, experiences of racial discrimination are shown to increase the likelihood of significant adverse physical and psychological health problems among Black people. These include associated rates of psychological distress, heart disease, breast cancer, high blood pressure, and even early mortality for older Black adults (e.g., Santiago, 2018; Graham-LoPresti, Abdullah, Calloway, & West, 2017; Kwate, Valdimarsdottir, Guevarra, & Bovbjerg, 2003; Williams & Neighbors, 2001; Lewis et. al, 2006; Taylor et al., 2007; Barnes et al., 2008; most as cited in Silverstein, 2013). Of particular significance to the current study, experiences of racial discrimination are also associated with increased *depressive symptomatology* (e.g., Cooper, Gonzales, Gallo, Rost, Meredith, Rubenstein, Wang, & Ford, 2003; Hoggard, Byrd, & Sellers, 2015, as cited in Taylor, Campbell, Thorpe, Whitfield, Nkimbeng & Szanton, 2017) and *disordered eating* behaviors, notably binge eating, among Black women (e.g., Assari, 2018; Clark, Anderson, Clark, & Williams, 1999; Harrington, Crowther, Henrickson, & Mickelson, 2006; Matria, 2002; Root, 1990; Smolak & Striegel-Moore, 2001; Talleyrand, 2006; Thompson, 1994, 1996; most as cited in Connolly, 2011).

The current study aimed to extend previous, albeit limited research that examines the impact of racism-related stress among people of Afrikan descent in the United States. This study particularly focused on institutionalized racism-related stress as experienced by a group of Black women in graduate and professional programs of study. As there is a dearth of literature that

centers the intersectional experiences of Black women in both college mental health research and studies on disordered eating, the current study sought to bridge this gap by exploring how racism-related stress in academia (study variable) is associated with Black female graduate and professional program students' endorsement of psychological distress, notably depressive symptomatology (study variable) and binge eating behaviors (study variable). Additionally, this study used an intersectionalist framework to gauge both racism-related and gendered racism-related stress by including open-ended response measure items that assessed how Black women combat specific stressors related to the interlocking of their racial and gendered identities. Participants included 68 self-identified cisgender Black women currently enrolled in graduate and professional programs of study across the United States who completed an online survey questionnaire that included a measure of depressive symptomatology and severity (PHQ-9); a screener for binge eating disorder (BEDS-7); a measure of stressors related to being a student of color in a university setting (MSS Scale); two qualitative open-response questions related to being a Black woman in academia and how these experiences impact health and wellbeing; and demographic items.

Based on previous research, it was first hypothesized that participants would overwhelmingly endorse high institutionalized racism-related stress at their current academic institution as assessed using the MSS Scale. As previously discussed, since the 2016 presidential election, there has been a tremendous spike in racially targeted hate crimes on university campuses (SPLC; as cited in Duster, 2017). While racism and anti-Blackness on college campuses certainly existed prior to the current political climate, it was predicted that participants would report high levels of stress related to being a Black student at their academic institution on

account of these changing political stressors, in addition to the already known presence of covert, implicit forms of racism in academic settings (e.g., microaggressions).

A second hypothesis predicted that there would be significant and positive relationships between the study variables (racism-related stress, depressive symptomatology, and binge eating behaviors). As previous studies have found significant and positive associations between racism-related stress and depression (e.g., Coker, Elliott, Kanouse, Granbaum, Schwebel, Gilliland, & Schuster, 2009; Kogan, Yu, & Brody, 2015; Molina & James, 2016; Ong, Fuller-Rowell, & Burrow, 2009; Tynes, Giang, Williams, & Thompson, 2008); depression and binge eating (e.g., Casper, 1998; Pope & Hudson, 1998; Santos, Richards, & Bleckley, 2007; Pagoto, Bodenlos, Kantor, Gitkind, Curtin, & Ma, 2012; Smith, Marcus, Lewis, Fitzgibbon, Schreiner, 1998; Strober & Katz, 1987; Szmuckler, 1987; Ulfvebrand, Birgegard, Norring, Hogdahl, & von Hausswolff-Juhlin, 2015); and binge eating and racism-related stress (Assari, 2018; Clark, Anderson, Clark, & Williams, 1999; Harrington, Crowther, Henrickson, & Mickelson, 2006; Mastria, 2002; Root, 1990; Smolak & Striegel-Moore, 2001; Talleyrand, 2006; Thompson, 1994, 1996; most as cited in Connolly, 2011) among Black individuals, it was expected that there would be significant correlations between each of these variables among participants.

Finally, a third hypothesis tested depressive symptomatology as a potential mediator between racism-related stress and binge eating. As noted in Connolly (2011), further research is needed that explores mediation effects between racism-related stress and overeating and binge eating behaviors. In the current study, it was predicted that participants who reported higher levels of racism-related stress would also report increased depressive symptomatology, which could help explain the relationship between racism-related stress and binge eating behaviors.

Results varied across the study hypotheses. In contrast to predictions, overall, participants did not endorse significantly high levels of racism-related stress as assessed on the MSS scale. As reported in Chapter 4, participants demonstrated a seemingly normally distributed range of racism-related stress related to being a Black student at their current university. In order to better conceptualize general scoring patterns, the primary researcher subdivided scores into grouped categories. Most participants (34%) scored between 66-99 points on the MSS scale, while the second largest group (27%) scored between 100-132 points. Only 8 participants (12%) scored between 133-165 points, closest to the 165 possible total score. However, participants did endorse the ‘Racism and Discrimination’ and ‘Social Climate’ subscales as the most stressful factors on the MSS scale. The second hypothesis was partially confirmed, as racism-related stress scores were significantly and positively associated with depressive symptomatology. Participants who endorsed greater racism-related stress had higher scores on the PHQ-9 depression inventory. In contrast to the second hypothesis, the remaining study variables were not significantly associated. Finally, depressive symptomatology was not found to mediate the relationship between racism-related stress and binge eating behaviors as was predicted.

Although not included in the hypotheses, there were significant correlational findings between two participant demographic variables and the study variables. First, participants who reported that their current academic institution and their specific academic program were comprised of less than 5% of Black students, demonstrated higher racism-related stress on the MSS scale, compared to participants who estimated that their current institution and program consisted of more than 5% of Black students. Second, participants who were currently enrolled in academic institutions in the Western region of the United States endorsed higher racism-

related stress on the MSS scale compared to participants in the Northeast, Midwest, and Southern regions. Open-ended qualitative questions that asked participants to discuss how their identity as Black women shape how they are treated by others at their institution, in addition to how these experiences impact their health and wellbeing, garnered a wide variety of responses. Participants reported combating negative stereotypes assigned to Black women, including the “angry Black woman”; feelings of tokenization in white academic spaces; experiences of anti-Black racism and microaggressions; and frustration in navigating white discomfort and sensitivity. These experiences impacted the health and wellbeing of participants in a multitude of ways. Many participants reported feeling stress and emotional distress, including feelings of depression related challenges. Participants also reported feeling anxious, in addition to physical and somatic symptoms, such as overeating, chest pains, and immune system deficiencies.

***Hypothesis I.*** Although some participants did not endorse overwhelmingly high racism-related stress scores as assessed using the MSS scale, nearly 40% of participants did score over 100 points out of a possible 165 total score. Participants most often endorsed ‘racism and discrimination’ and ‘social climate’ stressors at their current academic institution, including not having access to enough Black professors and Black classmates; institutionalized racist policies and practices at their university; being treated rudely or unfairly because of their race; and white people expecting them to be a certain way because of their race (i.e., stereotyping). While it was hypothesized that a greater number of participants would score in the higher range groupings on the MSS scale, it is important to recognize the near half of the participant sample that did. As previous literature suggests, the cumulative emotional, psychological, and physiological distress experienced by Black students in predominantly white college and university settings due to racism and discrimination can lead to the experience of *racial battle fatigue*, racism-related stress

that can impact the health and educational attainment of this population (e.g., Smith, Allen, & Danley, 2007; University of Utah, 2017). It is critical that colleges and universities attend to the unique stressors that Black (female) graduate and professional programs of study students are experiencing across the United States. As research on racism-related stress continues to evolve, increased work is required that specifically examines the impact of institutionalized anti-Black racism and gendered racism-related stress in academia and its influence on Black students in higher education.

There are several alternative explanations for the current findings. First, the MSS scale was developed 25 years ago. In order to more accurately capture racism-related stress among Black students in contemporary academia, an updated and more explicit measure that assesses for institutionalized racism-related stress may be required. Second, the MSS scale was developed and normed on undergraduate college student populations. As the current study centered Black female students in graduate and professional programs of study, it is possible that this measure may not provide a fully robust reflection of the particular racism-related stressors most often experienced among this population. Graduate and professional program of study students experience academia in distinct ways from undergraduate students and therefore the MSS scale might not recognize specific racism-related stress items that impact these students. This measure also does not assess for *gendered racism*, or assess for the unique, intersectional experiences of racism *and* sexism experienced by Black women. As previously discussed, Black women are subjected to a compound discrimination that is both anti-woman and anti-Black. Szymanski & Lewis (2016) described how most of the literature that explores Black women's experiences of oppression separates racism and sexism, which in turn does not allow for evaluation of how racism and sexism intersect and combine as a unique stressor that impacts

wellness of this population. As the MSS scale is only a measure of the stress related to being a student of color, it does not capture experiences of institutionalized gendered racism that Black women are subjected to in college and university settings. Continued research is needed that focuses on the impact of racism-related stress and gendered racism on Black women's experiences in graduate and professional programs of study. Participants in the current study most frequently endorsed challenges related to the social climate of their college and university setting, namely racist institutionalized policies and poor support for Black students. These findings tell us that academic institutions need to address the values promoted at the administration and policy levels. Additionally, increased support and recognition of Black female graduate students is required to ensure that this population is a valued member of their academic communities.

***Hypothesis II.*** As predicted, there was a significant and positive correlational relationship between racism-related stress and depressive symptomatology. In other words, participants with higher scores on the MSS scale also endorsed higher scores on the PHQ-9. Previous research supports this finding, as experiences of racism and discrimination are associated with increased risk of depression and related psychological distress for people of color, namely Black people (e.g., Cooper, Gonzales, Gallo, Rost, Meredith, Rubenstein, Wang, & Ford, 2003; Hoggard, Byrd, & Sellers, 2015, as cited in Taylor, Campbell, Thorpe, Whitfield, Nkimbeng & Szanton, 2017). Subsequently, it is important to address anti-Black racism as a social determinant of health and a risk factor for Black health outcomes. Not only does institutionalized racism-related stress impact students' ability to feel safe within the college community, but it also holds significant implications for mental health wellness. As research continues to find that depression among graduate students is on the rise across college campuses

(e.g., Evans, Bira, Gastelum, Weiss, & Vanderford, 2018), it is important that institutions begin to address possible causes of this epidemic, which may include racism-related stress among Black and other students of color. Specific to the current study, Black women in academia may be at increased risk for depression due to gendered racism. As Black women in the general population are more likely to experience depression compared to their white female and male counterparts, this combined with the general stressors associated with being in a graduate school setting and the unique stressors related to being a Black female graduate student, may negatively impact the mental health outcomes of this population. It is important that researchers and mental health practitioners continue to center Black graduate students in college mental health literature, particularly its association to anti-Black racism-related stress on college campuses.

Contrary to predictions, binge eating behaviors among participants were not found to be significantly correlated to their reports of racism-related stress or depressive symptomatology. As demonstrated in previous research, binge eating is associated with both experiences of racism and discrimination among Black women and depressive symptomatology. While Black women have largely been excluded from disordered eating literature, growing research finds that racism-related stress is linked to binge eating behaviors among Black women (e.g., Assari, 2018; Clark, Anderson, Clark, & Williams, 1999; Harrington, Crowther, Henrickson, & Mickelson, 2006; Mastria, 2002; Root, 1990; Smolak & Striegel-Moore, 2001; Talleyrand, 2006; Thompson, 1994, 1996; most as cited in Connolly, 2011). Additionally, research also finds that binge eating and depression share many of the same brain regulation chemicals, which often results in their high comorbidity in patient populations (e.g., Haedt-Matt & Keel, 2001).

As previously indicated, one plausible explanation for these statistically non-significant findings in the current study is that only half of the participant sample (37 participants) took the

full BEDS-7 screener. It is speculated that such a small sample reduced the statistical power of the correlational analyses between the binge eating study variable and the depressive symptomatology and racism-related stress study variables. A larger sample of participants who endorsed binge eating behaviors might have yielded stronger correlational relationships between the study variables. As Black women are found to endorse binge eating symptomatology at higher rates relative to other disordered eating challenges (e.g., anorexia nervosa, bulimia nervosa), it is important that continued research explore binge eating behaviors among this population to develop increased understanding around their development and maintenance. To be discussed later in this section, several participants explicitly named anti-Black racism within their academic institutions as a stressor that contributes to their overeating and binge eating behaviors. Additional insight is needed that examines how binge eating may present among Black women in graduate and professional programs of study, particularly in relation to experiences of institutionalized racism-related stress and depression.

*Hypothesis III.* Finally, depressive symptomatology was not found to mediate the relationship between racism-related stress and binge eating. Based on previous research, it was predicted that depression could help explain the relationship between racism-related stress and binge eating among participants, such that levels of racism-related stress (independent variable) could lead to increases in depressive symptomatology (mediator variable), which could then lead to increases in the presence of binge eating behaviors (dependent variable). As was suggested in Connolly's (2011) dissertation work that examined the influences of racism, racial socialization, and stress on overeating among Black women, expansive research is needed that explores possible mediators and moderators between experiences of racial discrimination and overeating. The current study sought to extend this area of research by testing the mediation effect of

depressive symptomatology, as measured using the PHQ-9, between racism-related stress in academia and binge eating.

There are many reasons why this mediation effect may not have been demonstrated. Again, the small sample size of participants who took the full BEDS-7 screener for binge eating drastically reduced the statistical power of these data values in the mediation analyses. Additionally, nuance may be required in how we assess for these particular study variables in Black female populations. As previously noted, the MSS scale was developed over 25 years ago and normed on undergraduate student groups. College and university settings have drastically changed over the past decades and novel tools that assess for experiences of racism-related stress in higher education, particularly in graduate and professional program settings would benefit research. The MSS scale also accounts only for racism-related stressors, while not capturing intersectional experiences of gendered racism that women of color are subjected to in academia and the greater United States society. As was demonstrated in the open-ended qualitative response questions, participants in the current study reported frequent stress related to discriminatory experiences related to being Black women in their academic programs. A robust measure of gendered racism may have yielded different responses from participants. While the PHQ-9 is a highly validated measure of depressive symptomatology and severity, an alternative measure of depressive symptomatology among Black women might capture a new perspective. As novel research continues to demonstrate differences in how Black people can experience depression, including physical and somatic symptoms and challenges in interpersonal relationships (e.g., Lu, Lindsey, Irsheid, & Nebbitt, 2017), new insight is needed on survey development that holistically captures how depression and related symptomatology can present within this population. The BEDS-7 was developed in 2014 as a tool to screen for adults

suspected of having binge eating disorder. Since the inclusion of binge eating disorder (BED) as a diagnosable mental health condition in the DSM-5, the BEDS-7 incorporates DSM-5 criteria and is primarily used in primary health care settings to screen for BED in adult populations. As the BEDS-7 has yet to be used in research literature, continued exploration is needed to assess for its validity and reliability, particularly among Black women populations. The BEDS-7 was not developed as a scoring measure for binge eating, and therefore another measure of binge eating severity could have yielded different findings. Although the mediation effect of depressive symptomatology was not demonstrated between racism-related stress and binge eating behaviors in the current study, continued research is needed that explores other predictors that allows for increased understanding of the relationship between the endorsement of these experiences among Black women.

***Qualitative Responses.*** Participants shared a diversity of responses to the open-ended qualitative questions that were generated to develop insight on the experiences of Black women in graduate and professional programs of study. The first question asked participants to report in what ways does their identity as a Black woman shape and or impact how they are treated by others (e.g., professors, peers, etc.) at their current academic institution (if applicable). Over 80% of participants provided a response to this question and their reported experiences were immensely valuable. Using a grounded theory approach, the researcher extracted salient themes observed throughout the data. Participants most frequently shared that as Black women, they combat negative stereotypes often assigned to Black women, such as the “angry Black woman”; feelings of tokenization and expectations to represent the “Black voice” in white spaces; experiences of anti-Black racism and microaggressions; and navigating white peers’ discomfort and sensitivity on campus.

*Negative stereotypes of Black women* have long influenced societal attitudes and treatment of this population in the United States. As demonstrated in the current study, participants expressed that they are often perceived as “angry”, “hyper aggressive”, “economically disadvantaged”, and unexpectedly “intelligent” or conversely, “unintelligent”, in addition to being expected to act and behave in particular ways by others. Many participants reported that they worry about fulfilling these stereotypes in predominantly white academic settings. Notably, several participants discussed their relationship to the stereotype of the “angry Black woman”, which characterizes this population as angry, mean, loud, and aggressive (NPR, 2019). This stereotype has long subjected Black women to feelings of invalidation and invisibility in responding to their environment. As described by Patricia Hills Collins, Black feminist sociologist, negative stereotypes of Black women serve to “control the image” of Black women within societal institutions to maintain and justify power structures, including racism, sexism, and classism (Collins, 2000; as cited in Walkington, 2017).

*Tokenization* was another stressor that Black women reported experiencing in graduate and professional program academic spaces. As previously described by McGee & Stovall (2016) tokenism can be defined as “one person representing an entire group of people in a majority setting”. The findings of the current study support previous qualitative research that explores Black women’s experiences in graduate school. In Robinson’s (2013) qualitative work on communication strategies used among Black female graduate students, participants discussed their experiences of being “tokens” in their academic program, in addition to the risks associated with addressing racial oppression in academia. Robinson (2013) describes “spoketokenism” or the expected act set upon Black female students to speak for and represent the Black woman perspective for peers and professors in the academic setting. This work powerfully explores how

Black women navigate this space and the influence that this has on their desired perception in academia.

Participants' reported experiences of *racism and microaggressions* in the current study also supports previous research (e.g., Allen, 2000; as cited by Robinson, 2013). As previously discussed, daily microstressors was a term first coined in the 1970s that describes racist encounters that are "...brief and commonplace daily verbal, behavioral, and environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative racial slights and insults that potentially have harmful or unpleasant psychological impact on the target person or group" (Solórzano, Ceja, & Yosso, 2000). They are examples of everyday racism that Black people experience across settings and are critical to understanding racism in contemporary United States society (Harrell, 2000). Other studies have found that Black women in graduate studies are impacted by anti-Black racism regularly, which shifts how they are able to engage with non-Black (namely white) peers and professors (Allen, 2000; as cited in Robinson, 2013). This article goes on to discuss Black female students' experiences of being "ignored, invisible, isolated, and silenced" in classroom settings (Robinson, 2013). As anticipated, several participants in the current study named racism as a stressor related to their being Black women at their current academic institution. While some participants described incidents of explicit racism, such as being stripped of previously extended opportunities on account of racial discrimination, others shared examples of implicit or more covert forms of racism, such as comments from white professors on their impressively "good articulation" when speaking in the classroom. These findings support existing literature that explores Black female students' experiences of racism and discrimination in academia and sheds insight into daily stressors that this population is subjected to in learning environments.

Finally, many participants in the current study also described stress related to *navigating white peers' discomfort and sensitivity* during conversations and interactions, including those focused on cultural differences and politics. While this theme was unexpected, it is an interesting finding that also demonstrates the breadth of stress related to being a minoritized group in graduate and professional programs of study. For example, one participant shared that she combats an underlying discomfort among white peers that requires her to be mindful of her surroundings and how she chooses to engage. I pose that this discomfort is best understood as the manifestation of *white fragility*. Coined by sociologist, Robin DiAngelo nearly one decade ago, DiAngelo conceptualizes white fragility as “the insulated environment of racial protection [that] builds white exceptions for racial comfort while at the same time lowering the ability to tolerate racial stress” (DiAngelo, 2011). DiAngelo describes white fragility as a reduction in psychosocial stamina, to which:

“...even a minimum amount of racial stress becomes intolerable, triggering a range of defensive moves. These moves include the outward display of emotions such as anger, fear, and guilt, and behaviors such as argumentation, silence, and leaving the stress-inducing situation. These behaviors, in turn, function to reinstate white racial equilibrium” (DiAngelo, 2011).

Although participants did not report their white peers demonstrating emotions of anger or fear, the immense sensitivity that white students in academia project onto Black students can be examined through this framework of white fragility – the inability to withstand racial stress. While this theory centers white discomfort surrounding racial distress and “entitlement to racial comfort”, it is critical to address how white fragility impacts Black students in predominantly white academic settings. As Black students are often expected to carry the load of racism-related

stress, these findings also highlight the burden that Black women face in navigating and holding whiteness.

The second qualitative question asked participants to report how they believed that their experiences endorsed in the first question impacted their health and wellbeing, including their physical, emotional, and psychological health. Over 80% of participants provided a response to this question and these responses also yielded valuable insight on how racism-related stress in academia impacts their overall health wellness. Using a grounded theory approach, the primary researcher extracted salient themes observed throughout the data. Participants most frequently shared that they experience general stress and emotional distress; anxiety and related symptoms; and bodily, physical, and/or somatic symptoms in response to their treatment at their current academic institution.

Participants' reporting of *general stress and emotional distress* related to racism-related stressors at their current academic institutions supports previous research that finds an association between racism and negative health outcomes for Black people. As previously discussed, racism-related stress is found to have significant impacts on wellbeing, namely adverse physical and psychological health (e.g., Clark, Anderson, Clark, & Williams, 1999; Paradies, 2006; Pascoe & Smart Richman, 2009; Pieterse, Todd, Neville, & Carter, 2012; as cited in Lewis, Williams, Peppers, & Gadson, 2017). Notably, some participants described combatting depressive symptomatology due to the stress related to being Black women in their institutions. Some participants described feelings of "mental exhaustion" and feeling "drained", which could be explored as symptoms of *racial battle fatigue*, the chronic cumulative emotional, psychological, and physiological distress experienced by Black students in predominantly white colleges and institutions due to racial discrimination (Smith, Allen, & Danley, 2007). As

chronic, long and even short-term stress are known to have immense consequences for mental and physical health, including increased risk for anxiety and depression, cardiovascular disease, insomnia, and immune system deficiencies, it is important to specifically address how racism-related stress can be harmful to Black health outcomes. As graduate students are already met with a variety of stressors in academia, Black students, particularly Black women, are met with another set of stressors that are rooted in institutionalized racism that can impact their emotional wellness. Continued research is needed that explores the causes of stress among Black women in graduate studies and how institutions can better support the general wellbeing of this population.

*Experiences of anxiety* was another challenge that participants shared in response to the second open-ended response question. Several participants described feeling anxious and “alert”. One participant described her anxiety as “crippling”, while another indicated that her anxiety makes it difficult to focus, answer emails, and meet deadlines. Anxiety disorders are characterized as mental health disorders marked by “intense, excessive, and persistent worry and fear” (Mayo Clinic, 2018). These disorders often present as repeated episodes of sudden anxiety and fear, which can make it difficult to perform daily activities (Mayo Clinic, 2018). Research suggests that 25% of Black people in the United States will experience an anxiety disorder in their lifetime (Graham-LoPresti, Abdulla, Calloway, West, 2017). Social anxiety disorder is cited as the most commonly experienced anxiety disorder among Blacks, with a lifetime prevalence of nearly 11%, followed by generalized anxiety disorder (5.1%), panic disorder (3.1%), and obsessive-compulsive disorder (3%) (as noted in Graham-LoPresti, Abdulla, Calloway, West, 2017). Interestingly, research also suggests that anxiety symptoms among Black people are found to last longer relative to the general population (Graham-LoPresti, Abdulla, Calloway, West, 2017). Similar to other known psychological health outcomes,

experiences of racism and related stress are found to be associated with increased rates of anxiety among Black people. Graham-LoPresti, Abdullah, Calloway, & West (2017) suggest three ways that racism negatively impacts anxiety for Black people in the United States.

First, they offer that because persons targeted by racism are unable to control whether or not they encounter racism, this can lead to one's perception that they *lack any sense of control over their environment*. This can manifest as anxiety, a perception of no control over environmental conditions regardless of your own behaviors and can create feelings of anxious distress and worry. Further, as Black people are often unable to control their right to safe spaces void of racial discrimination, this perception of poor control can enable feelings of devaluation or invisibility, which can add to anxious symptomatology (Graham-LoPresti, Abdulla, Calloway, West, 2017). Second, the authors suggest that racism can impact Black persons via *internalized racism*, which is known to contribute to feelings of anxiety. Although not all Black people experience internalized racism, frequently navigating anti-Black racism can expose one to messages of racial inferiority. In turn, individuals impacted by racism may begin to internalize "negative and critical beliefs about one's worth" (Graham-LoPresti, Abdulla, Calloway, West, 2017). Internalized racism is demonstrated to be associated with increased emotional distress, while poor self-esteem and negative thoughts are also linked to anxiety and related challenges. As Black people are often exposed to anti-Black media and political stressors across societal sectors (e.g., stories of police brutality and harm enacted towards members of the Black community), this can lead to feelings of "worthlessness, shame, fear, and sadness" which can spike anxiety (as cited in Graham-LoPresti, Abdulla, Calloway, West, 2017). Last, Graham-LoPresti, Abdullah, Calloway, & West (2017) offer that experiences of racism can maintain feelings of anxiety for Black people through *avoidance* of situations that are important and

valuable to members of this community. As described, avoidance of particular negative emotions (e.g., fear, embarrassment) and situations are found to contribute to anxiety (Graham-LoPresti, Abdulla, Calloway, West, 2017). More specifically, as people strive to control and avoid exposure to negative emotional experiences, including racism, this can lead to impaired mental health, as avoidant coping can lead people to avoid “the things that are most meaningful...or [to] engage in meaningful actions consistent with our values (e.g., deserving of equal respect at stores and in all parts of town or our rights to equal access to education, healthcare, and employment)” (Graham-LoPresti, Abdulla, Calloway, West, 2017). Relevant to participants in the current study, their experiences of racism in graduate and professional programs of study might present as deterrents from their participating in activities related to their “education, career goals, and making social connections” (Graham-LoPresti, Abdulla, Calloway, West, 2017). This decreased ability to access meaningful situations is linked to increased anxiety symptomatology. Future research is needed that explores the relationship between anxiety among Black women in graduate studies and their experiences of racism-related stress and binge eating. As Connolly (2011) suggests, literature should continue to explore possible mediators between racism-related stress and binge eating among this population, particularly anxiety and self-esteem, as these constructs are known to be impacted by experiences of racism and discrimination.

Finally, participants also described combatting *bodily, physical, and/or somatic symptoms* in response to their experiences within their academic institutions. For example, several participants reported experiencing bodily pains, such as shoulder and back aches; getting sick more often with cold and flu-like symptoms; and relevant to the current study, compulsive overeating as a coping response to racism-related stress. As previously discussed, experiences of

racism and discrimination are found to be associated with immune system deficiencies (e.g., Kwate, Valdimarsdottir, Guevarra, & Bovbjerg, 2003). Among a sample of Black women, these authors found a correlational relationship between lifetime racism and negative health, including increased “history of physical disease and frequency of contracting the common cold” (Kwate, Valdimarsdottir, Guevarra, & Bovbjerg, 2003). As demonstrated by participants in the current study, racism and discrimination may be associated to Black women’s immune system health and increased research is needed that examines these health disparities. Separately, research finds that Black people may also experience depression more somatically than other racial groups, such that depression can manifest through physical and bodily aches and pains (e.g., headaches). For example, Lu, Lindsey, Irshields, & Nebbitt (2017) found that Black youth with depression often endorsed symptoms that included physical pains and discomfort. The authors critiqued the use of the Center for Epidemiologic Studies Depression Scale (CES-D), a frequently used measure of depressive symptomatology, for young Black people, as the scale did not capture the full expression of depression experienced by this population. As several participants in the current study also reported somatic symptoms, it is critical that we develop novel measures for depression that are culturally relevant and appropriate for Black women. For example, the PHQ-9 does not ask respondents to report experiences of somatic symptoms and therefore may be neglecting an important indicator of depressive presentation among this population.

Additionally, a few participants in the current study also reported disordered eating behaviors in response to racism-related stress, particularly compulsive overeating. This finding supports existing literature that finds association between experiences of racism-related stress and overeating and binge eating behaviors among women of color (e.g., Assari, 2018; Clark,

Anderson, Clark, & Williams, 1999; Harrington, Crowther, Henrickson, & Mickelson, 2006; Mastria, 2002; Root, 1990; Smolak & Striegel-Moore, 2001; Talleyrand, 2006; Thompson, 1994, 1996; most as cited in Connolly, 2011). As previously discussed, because disordered eating literature mostly centers white, middle-aged women, Black women and other women of color are often excluded from this domain of research. As growing work is indeed finding that Black women are impacted by disordered eating, particularly binge eating, it is important that researchers and practitioners increase understanding of the contributors to these eating challenges among this population. Talleyrand (2006) is one researcher already addressing this, as her research explores contextual stressors, including gendered racism, that are associated with Black women's experiences of disordered eating. Thompson's earlier work (1992) also frames experiences of racism as *trauma* and suggests that binge eating is used as a coping mechanism for women of color in response to environmental stressors and traumas, including racism and discrimination. Continued research is needed that explores binge eating and overeating behaviors among Black women in graduate and professional programs of study, as they connect to experiences of institutional racism in higher education.

***Other significant findings.*** Not surprisingly, participants who estimated that they were part of an academic institution and program to which Black students comprised of less than 5% of the student population had higher minority student stress scores compared to participants who estimated that Black students comprised of greater than 5% of the student population in the academic institution and program. Developed in 1993, the MSS scale was created as a means to conceptualize the unique stressors that students of color often experience in university settings (Smedley, Myers, & Harrell, 1993). This measure combines items from generic student stress scales and specific issues generated from a sample of undergraduate students of color. As

previously detailed, the MSS scale consists of five sub-scale factors, described as *social climate*, *interracial*, *racism and discrimination*, *within group*, and *achievement* stressors. Scores on the MSS scale varied across participants, as the average MSS score was 85 out of a possible 165 total score. Interestingly, the ‘racism and discrimination’ and ‘social climate’ stressors subscales were the most frequently endorsed among participants. This is an important finding, as participants with overall higher scores on the MSS scale were also more likely to estimate that there were fewer Black students in their academic institution and program of study. As graduate and professional programs of study can naturally induce stress due to a myriad of factors, being a Black student at a predominantly white institution (PWI) by which you have less access to peers of your racial affinity group, can compound this stress. Navigating white dominant institutions as persons of color exposes these individuals to increased risk of challenges related to racial discrimination and social climate injustices, including racist institutional practices and decreased support for people of color within the institution. It is important to recognize the stressors that Black graduate students combat in higher education, particularly in association with racial isolation and the increased need for community support.

Interestingly, there were differences between participants’ endorsement of racism-related stress on the MSS scale according to school region, such that participants in degree programs in the ‘Western’ region of the United States reported higher stress related to being a student of color compared to participants in other regions. Participants were asked to provide the name and state of their current academic institution and the primary researcher sub-divided schools according to regional mapping. Just over 40% of participants in the current study were attending academic institutions in the western region, specifically in the states of Washington, California, and Arizona. It must be noted that while this population endorsed statistically significant higher

stress related to being Black students on their campuses compared to others, this group was also the largest portion of the participant sample. However, it is critical for future research to explore this further, as regional differences among academic institutions could tell an important story about how Black female graduate students experience racism-related stress across the United States. Differences in culture, attitude, and politics from state-to-state are potentially influential factors on racial climates within college campuses. Continued literature should determine how institutional racism in academia manifests across the nation, and particularly how Black female graduate students experience racism-related stress in association with their academic location, including higher education institutions outside of the United States.

### **Limitations and Future Research**

There are several limitations to the current study. First, this study examined correlational associations between racism-related stress, binge eating, and depressive symptomatology, and therefore causality between these study variables cannot be inferred. Racism-related stress was found to be significantly and positively related to depressive symptomatology among participants, however these findings remain correlational due to study methodology. Second, participants were recruited online through select Facebook group communities. Although snowball sampling methods were employed, this study sample is non-random and generalizability to other Black women in graduate and professional programs of study in the United States is restricted. Third, due to research that suggests differences in the prevalence of eating disorders among cisgender and transgender individuals, the current study opted to focus on cisgender women for this particular research study. This is a clear limitation, as research is needed that explores experiences of binge eating among Black trans and nonbinary women in graduate and professional programs of study, in addition to their possible relationship to

endorsements of racism-related stress and depressive symptomatology. Fourth, although this study aimed to center the experiences of both graduate and professional program of study students, it is important to consider that professional program students were the vast minority of the participant sample. Fifth, as previously discussed, another possible limitation of the current study is the specific measures used to conceptualize the study variables. The MSS scale was developed over 25 years ago and was created based on institutionalized academic stressors identified by undergraduate students of color. Black women in graduate and professional programs of study may experience stress related to being minoritized students at their academic institutions in specific ways that are not fully captured in the MSS scale. The BEDS-7 is a newly designed screener to identify adults who may have binge eating disorder. It is primarily used in primary care settings and has limited use in research literature. As the BEDS-7 is not used as a diagnosing tool, the screener does not use scoring to assess for binge eating severity. In order to operationalize endorsed binge eating behaviors for the current study, the primary researcher categorized responses using a 4-point scoring guide. While this method allowed for increased insight into the frequency that participants endorsed several binge eating characteristics (e.g., lack of control during excessive eating; feelings of disgust and guilt after binge episodes), it was not devised by the BEDS-7 developers and must be noted when interpreting the study findings. Further, additional research is needed to validate the use of the BEDS-7 with this specific population, as Black women are often excluded from disordered eating research and survey tool design. While the PHQ-9 is a commonly used measure for depressive severity, it may also neglect particular ways that depressive symptomatology can present among Black people, including bodily aches and somatic symptoms. Sixth, as participants were asked to self-report their personal experiences of racism-related stress, binge eating behaviors, and depressive

symptomatology through an online survey, some may have misrepresented their experiences due to feelings of discomfort or associated stigma related to mental health problems. In turn, some participants may have underreported their symptoms as a means to downplay their experiences related to the study variables. This is critical to note, as social desirability can impact respondents' self-reporting of their behaviors and thought patterns.

### **Implications and Conclusion**

Despite the limitations described above, this study found that experiences of institutionalized racism-related stress can predict endorsement of depressive symptomatology among Black women in graduate and professional programs of study, such that increased levels of racism-related stress was positively associated with greater depression severity. This finding supports previous research suggesting that experiences of anti-Black racism are known to impact the health of Black persons in the United States, particularly leading to adverse psychological and emotional health outcomes. These results also support literature that documents the chronic psychological and physiological stressors that many Black (female) students combat in predominantly white university settings on account of (gendered) racial discrimination (i.e., racial battle fatigue). The Black women who participated in this study shared immensely personal accounts of their own racial battle fatigue symptoms, including the emotional and physical distress that derives from navigating anti-Blackness in white academic environments.

Future research should continue to center Black women in graduate and professional programs of study, exploring how institutionalized anti-Blackness in academia can affect the wellbeing of this population as was examined in the current study. Although depressive symptomatology was not found to be a mediator between reported levels of racism-related stress and binge eating in this study, additional insight is needed on other possible factors that influence

the onset and maintenance of these health issues. Further examination is warranted on how racism-related stress is associated with other health outcomes for Black persons in the United States. As discussed, research must seek to design culturally appropriate survey measurements that capture Black women's intersectional experiences of mental and physical health challenges. Because most psychometric tools used for assessing mental health in the United States are standardized among white, middle-class populations, it is imperative that we strive to decolonialize mental health practice and research in order to enhance racial equity across this domain.

The practical implications of this work are vast. In this study, many Black women shared accounts of institutionalized anti-Blackness in graduate-level academia and the impact that it has on their wellbeing. In the words of activist and novelist, Zora Neale Hurston: *If you are silent about your pain, they'll kill you and say you enjoyed it* (Hurston, 1990). Many of the women who participated in this study shared intimate stories related to racism and related social climate stressors at their current institutions and we must respond to their concerns appropriately. Gendered anti-Blackness (i.e., gendered racism) in graduate and professional programs of study harms not only those who are individual targets, but the collective wellness of the community. Higher education must be held accountable in addressing racism on college campuses by reflecting anti-racist practices in administrative policy and school culture.

Based on the responses from participants in the current study, it is evident that graduate programs must extend past goals of “diversity” to that of *inclusion* and *safety*, to support the holistic achievement of minoritized students. Recommendations for creating a more inclusive space for Black female graduate and professional program of study students can be made from this study. First, academic institutions need to promote anti-racism at the policy and

administrative levels. As participants in the current study voiced feelings of isolation in their programs and/or on their campuses, institutions must actively seek racial diversity among faculty and professors. Black faculty and professors are as important to the student experience as are Black peers, and often help foster an increased sense of community for students of color on college campuses. Academic institutions must also enhance recruitment and support of Black and other minoritized students, in addition to reducing the barriers that many students of color face in entering graduate-levels studies. Curriculum is another critical piece to inclusive education. The United States education system is largely based in eurocentric fallacies that often erase the presence and worldviews of communities of color, particularly populations of Afrikan descent. Programs should seek to inform curriculum with authorship and research from marginalized communities to increase cultural humility through academic material. Further, it can be recommended that academic programs facilitate the design of courses that require students and instructors to engage in self-reflective practice to critically analyze positionality and privilege status. As students and faculty begin to challenge their own biases and articulate how their experiences are impacted by institutional systems that are either supportive or oppressive depending on their social identities, this can foster increased dialogue between students and instructors from varying backgrounds. Additionally, as instructors also engage in increased social justice awareness and multicultural practice in the classroom, this may allow them to better support their Black students when they combat microaggressions and anti-Blackness in the classroom.

Graduate-level institutions and professional programs of study can also promote anti-racist practice by creating spaces for Black female students to voice their concerns regarding problematic academic social climates and policies. For example, as several participants in the

current study shared that they lack support from faculty and advisors, it is critical that universities actively listen to the voices of Black female graduate students and address their needs appropriately. Academic institutions should strive to provide a healthy culture for Black graduate students by fiercely responding to racism and bigotry through policy and collective action. It is not enough for institutions to acknowledge larger societal racism, without addressing the racism on campus that impacts their own students of color. Academic institutions can also do anti-racist work by creating and supporting networks for Black graduate students. For example, the University of Washington (UW) in Seattle, Washington has a program designed to do just this. For 50 years, the Graduate Opportunities and Minority Achievement Program (GO-MAP) has supported the success of graduate students of color across the UW, by organizing inclusive spaces on campus for networking and community building (UW Graduate School, 2019). GO-MAP seeks to expand diversity in graduate programs and to increase educational opportunities for students of color during their time at the UW. In order to decrease feelings of social isolation among Black female graduate students in predominantly white universities, academic institutions should invest in programming and campus resources that serve to connect this population across programs and departments.

A second recommendation for creating a healthier space for Black female graduate and professional program of study students is through the provision of increased mental and emotional health support for this population on college campuses. As racism-related stress is found to significantly impact the psychological health of Black persons, racism must be named and addressed as a potential stressor for Black women in therapeutic settings. Counseling services provided at academic institutions must be culturally sensitive and relevant in providing support for Black female students. Ideally, therapeutic support from Black, female-identified

mental health professionals should be accessible for this community, as racial and gender concordance could enhance the quality of care experienced by this student group. *Chewa* is a therapeutic support group at the University of Washington, Seattle for self-identified Black and Brown women in graduate studies (UW Counseling Center, 2019). *Chewa* provides group therapy from a multicultural perspective and centers the experiences of members as they discuss their psychosocial stressors. The group format allows students to gain support from others and to engage in interpersonal processing to promote emotional wellness. Related to the current study, it is important that college mental health providers explore depressive and binge eating issues among this population from a *person-in-environment* framework. This includes examining larger environmental influences (e.g., gendered racism and discrimination) that are contributing to their maintenance. As participants in the current study reported immense stress, anxiety, and bodily and/or somatic symptoms related to their experiences as Black women at their academic institutions, university counseling services should also provide support for Black female students that address these specific mental and physical health challenges.

Anti-Blackness is a social poison that permeates individual, collective, and institutional domains across the United States. Racism is known to adversely impact the quality of life of those who are targets and inherently functions as a social determinant of health. Continued research is needed on interventions that address Black health outcomes, particularly for Black women who are uniquely impacted at the intersection of racism and sexism. Across all sectors of society, including graduate-level academia, racism must be addressed as violence and responded to as such.

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## Appendix A: Recruitment Post

*This is a call for cisgender Black women/women of Afrikan descent who are currently enrolled in a graduate or professional studies program to participate in a short research study that aims to center their health and wellbeing in relation to their experiences at their current academic institution.*

*Your participation is valuable and needed to address the incredible dearth of work that centers the experiences of Black women in higher education from a social and racial justice frame.*

*Please consider participating in this 15-minute online survey if:*

- 1) You identify as a cisgender, Black woman/woman of Afrikan descent*
- 2) You are currently enrolled in a graduate or professional studies degree program in the U.S.*
- 3) And you are least 18 years of age*

*\$10 [Amazon.com](https://www.amazon.com) gift cards will be provided to MULTIPLE raffle winners at the end of data collection!*

*Use this link to complete the survey: <https://catalyst.uw.edu/webq/survey/kcody0/361519>*

*PLEASE share this with your peers, friends, and colleagues who are eligible to participate.*

*If you have any questions about this research project, please feel free to reach out to me at [kcody0@uw.edu](mailto:kcody0@uw.edu). Thank you all in advance for your support and time!*



*Are you a **Black woman/woman of Afrikan descent** pursuing a **graduate or professional studies degree**?*

*Please participate in a research study that explores **institutional racial stress and the emotional and physical health of Black women** in higher education.*

*\*For your time, **\$10 Amazon.com gift cards** will be awarded to **multiple raffle winners**\**

*Copy and paste this link to access the 15-minute survey and please share with your fellow Black women in grad and professional studies:*

<https://catalyst.uw.edu/webq/survey/kcody0/361519>

*Questions or Comments? Contact [kcody0@uw.edu](mailto:kcody0@uw.edu)*

*Thank you!*

**W** SCHOOL OF SOCIAL WORK  
UNIVERSITY of WASHINGTON

## Appendix B: Survey Questionnaire Introduction and Informed Consent

### Centering Black Women: Racial Stress and Health in Academia

Kayla Cody, Master of Social Work Candidate, Principal Investigator, University of Washington  
School of Social Work, 4101 15th Ave NE, Seattle, WA 98105

*This study has been approved the Institutional Review Board at the University of Washington, Seattle.*

#### RESEARCHER'S STATEMENT

Greetings Fellow Sisters in Graduate and Professional Studies! I am asking you to be in a research study. The purpose of this consent form is to give you the information needed to help you decide whether or not to participate in this study. Please read the form carefully. You may direct questions about the purpose of the research, what you will do as a participant, the possible risks and benefits, your rights as a participant, and anything else about the research that is not clear to the primary researcher at [kcody0@uw.edu](mailto:kcody0@uw.edu). From here, you can decide if you want to be in the study or not. This process is called 'informed consent.'

#### PURPOSE OF THIS STUDY

You are invited to participate in an anonymous and confidential web-based online survey for a Master of Social Work thesis that will examine *institutional racial stress, mood, and eating behaviors among cisgender Black female students in graduate and professional studies*. If you agree to participate, it should take you approximately 15-20 minutes to complete. The total number of participants is expected to be 100 self-identified, cisgender Black women in graduate or professional studies across the United States.

#### STUDY PROCEDURES

If you choose to participate, you will be asked to answer a series of questions related to your experiences of institutional racial stress in your current academic program and or/institution setting (e.g., college/university), your eating behaviors, and your mood. At the end of the survey, you will be asked to provide your demographic information. This is a confidential research study and your name will not be asked nor required for participation.

#### BENEFITS

No direct benefits are guaranteed from participating in this research study. However, based on your responses, this study will provide valuable insight on experiences of institutionalized racial stressors, mood related challenges, and eating behaviors. Your participation may help us learn more about a subset of unique mental and physical health experienced by Black women in graduate and professional studies. Additionally, your participation in this study could help inform higher education administration about the particular racism-related stressors that Black women experience in graduate and professional studies and the need for academic institutions to

address these issues. Your participation could help inform the need for culturally appropriate and racial and social justice-oriented counseling and health services support for Black women.

### COMPENSATION

By completing the study, you are eligible to enter a raffle for one of ten \$10 Amazon.com gift cards. To do this, you will be asked to provide your email address at the conclusion of the survey. You do not have to enter the raffle if you do not want to do so. If you provide your email address for a raffle entry, your email address your answers will remain confidential. You will be notified if you are a raffle winner at the end of data collection.

### RISKS AND DISCOMFORT

There is the risk that some of the survey questions may cause emotional distress or discomfort, as they relate to your personal experiences with mental health and racial stress. You can skip any questions that you do not want to answer, or stop the survey entirely. Please contact the principal investigator, Kayla Cody, at [kcody0@uw.edu](mailto:kcody0@uw.edu) should you experience any stress or discomfort. If during or after the survey you continue to feel discomfort and would like to connect with mental health resources, you can contact:

**Mental Health America (MHA).** Call 1-800-273-TALK (8255) to reach a 24-hour crisis center or text 'MHA' to 741741.

**National Alliance on Mental Illness (NAMI).** Call the NAMI helpline at 1-800-950-NAMI (6264) or text 'NAMI' to 741741 to connect with a trained crisis counselor to receive free, 24/7 crisis support via text message.

**National Suicide Prevention Lifeline.** Call 800-273-TALK (8255) to speak with a trained crisis counselor 24/7 closest to your location. Your call will be answered by a trained worker who will listen empathetically and without judgment. The crisis worker will work to ensure that you feel safe and help identify options and information about mental health services in your area. Your call is confidential and free.

Your participation in this survey is voluntary. You may refuse to take part in the survey or withdraw from the survey at any time without penalty. You may also skip or choose not to answer specific questions or items.

### CONFIDENTIALITY

This is an anonymous research survey and your name and other identifiers will not be attached to your responses. No one will be able to identify you or your answers. Your responses will be stored in the survey program where data will be downloaded and protected on a secure computer. All results from this study will be presented at the group level in aggregate form and will not be connected to you. Only the principal investigator and faculty members of the thesis committee will have access to these research records.

**ELECTRONIC CONSENT:** Please select your choice below. You may print a copy of this form for your records. Clicking on the “Agree” button indicates that all of the following are true:

- You have read the above information
- You voluntarily agree to participate
- You will only take and submit this survey once
- You are 18 years of age or older
- You self-identity as a cisgender Black woman and/or woman of Afrikan descent
- You are currently enrolled in a graduate/professional program in the United States

Required.

Agree

Disagree

**Next >>**

If during or after the survey you feel distress and would like to connect with mental health resources, you can contact:

Mental Health America (MHA). Call 1-800-273-TALK (8255) to reach a 24-hour crisis center or text ‘MHA’ to 741741.

National Alliance on Mental Illness (NAMI). Call the NAMI helpline at 1-800-950-NAMI (6264) or text ‘NAMI’ to 741741 to connect with a trained crisis counselor to receive free, 24/7 crisis support via text message.

National Suicide Prevention Lifeline. Call 800-273-TALK (8255) to speak with a trained crisis counselor 24/7 closest to your location. Your call will be answered by a trained worker who will listen empathetically and without judgment. The crisis worker will work to ensure that you feel safe and help identify options and information about mental health services in your area. Your call is confidential and free.

Your participation in this survey is voluntary. You may refuse to take part in the survey or withdraw from the survey at any time without penalty. You may also skip or choose not to answer specific questions or items.

## Appendix C: Measures

Patient Health Questionnaire-9  
(Spitzer, Williams, & Kroenke, 1999)

The following statements are a list of ways you might have felt or thoughts you may have experienced related to your mood. **Please indicate how often you have been bothered by any of the following problems over the last two weeks.** You do not have to answer any question you do not wish to.

1. Little interest or pleasure in doing things	0 = Not at all	1 = Several days	2 = More than half the days	3 = Nearly every day
2. Feeling down, depressed, or hopeless	0 = Not at all	1 = Several days	2 = More than half the days	3 = Nearly every day
3. Trouble falling or staying asleep, or sleeping too much	0 = Not at all	1 = Several days	2 = More than half the days	3 = Nearly every day
4. Feeling tired or having little energy	0 = Not at all	1 = Several days	2 = More than half the days	3 = Nearly every day
5. Poor appetite or overeating	0 = Not at all	1 = Several days	2 = More than half the days	3 = Nearly every day
6. Feeling bad about yourself - or that you are a failure or have let yourself or your family down	0 = Not at all	1 = Several days	2 = More than half the days	3 = Nearly every day
7. Trouble concentrating on things, such as reading the newspaper or watching television	0 = Not at all	1 = Several days	2 = More than half the days	3 = Nearly every day
8. Moving or speaking so slowly that other people could have noticed. Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual	0 = Not at all	1 = Several days	2 = More than half the days	3 = Nearly every day
9. Thoughts that you would be better off dead, or of hurting yourself	0 = Not at all	1 = Several days	2 = More than half the days	3 = Nearly every day

	Not at all	Several days	More than half the days	Nearly every day
10. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?	Not at all	Several days	More than half the days	Nearly every day

Binge Eating Scale-7  
(Shire US Inc, 2014)

Please answer the following question about your eating behaviors:

During the last 3 months, did you have any episodes of excessive overeating (i.e., eating significantly more than what most people would eat in a similar period of time)?

Required.

Yes

No

The following statements are about behaviors, thoughts, and emotional states related to eating patterns and body consciousness within the last 3 months. **Please indicate which answer applies best to you.** You do not have to answer any question you do not wish to.

2. Do you feel distressed about your episodes of excessive overeating?

Yes

No

Within the past 3 months...

3. During your episodes of excessive overeating, how often did you feel like you had no control over your eating (e.g., not being able to stop eating, feel compelled to eat, or going back and forth for more food)?

Never or Rarely

Sometimes

Often

Always

4. During your episodes of excessive overeating, how often did you continue eating even though you were not hungry?

Never or Rarely

Sometimes

Often

Always

5. During your episodes of excessive overeating, how often were you

Never or Rarely

Sometimes

Often

Always

embarrassed by how  
much you ate?

---

6. During your episodes  
of excessive overeating,  
how often did you feel  
disgusted with yourself  
or guilty afterwards?

---

Never or Rarely

Sometimes

Often

Always

7. During the last 3  
months, how often did  
you make yourself  
vomit as a means to  
control your weight or  
shape?

Never or Rarely

Sometimes

Often

Always

Minority Student Stress Scale  
(Smedley, Myers, & Harrell, 1993)

The following statements are designed to assess your feelings and related experiences about being a student at your current university/institutional setting. **Please rate on a scale of 0 (does not apply) to 5 (very stressful) the level of stress you associate with each of the statements.** You do not have to answer any question you do not wish to.

1. The university does not have enough professors of my race	0	1	2	3	4	5
2. Few students of my race are in my classes	0	1	2	3	4	5
3. Racist policies and practices of the university	0	1	2	3	4	5
4. The university lacks concern and support for the needs of students of my race	0	1	2	3	4	5
5. Seeing members of my race doing low status jobs and whites in high status jobs on campus	0	1	2	3	4	5
6. Few courses involve issues relevant to my racial group	0	1	2	3	4	5
7. Negative attitudes/treatment of students of my race by faculty	0	1	2	3	4	5
8. White students and faculty expect poor academic performance from students of my race	0	1	2	3	4	5

9. Pressure that what "I" do is representative of my racial group's abilities, behavior, etc.	0	1	2	3	4	5
10. Tense relationships between whites and students of color at the university	0	1	2	3	4	5
11. The university is an unfriendly place	0	1	2	3	4	5
12. Difficulties with having white friends	0	1	2	3	4	5
13. Negative relationships between different racial groups at the university	0	1	2	3	4	5
14. The white-oriented campus culture of the university	0	1	2	3	4	5
15. Having to live around mostly white people	0	1	2	3	4	5
16. The lack of unity/supportiveness among members of my race at the university	0	1	2	3	4	5
17. Trying to maintain my racial identity while attending the university	0	1	2	3	4	5
18. Having to always be aware of what white people might do	0	1	2	3	4	5

19. Being treated rudely or unfairly because of my race	0	1	2	3	4	5
20. Being discriminated against	0	1	2	3	4	5
21. White people expecting me to be a certain way because of my race (i.e., stereotyping)	0	1	2	3	4	5
22. Others lacking respect for people of my race	0	1	2	3	4	5
23. Having to "prove" my abilities to others (i.e., work twice as hard)	0	1	2	3	4	5
24. People close to me thinking I'm acting "white"	0	1	2	3	4	5
25. Pressures to show loyalty to my race (e.g., giving back to my racial group community)	0	1	2	3	4	5
26. Pressures from people of my same race (e.g., how to act, what to believe)	0	1	2	3	4	5
27. Relationships between students of my race (e.g., lack of available dating partners)	0	1	2	3	4	5
28. Doubts about my ability to succeed in college	0	1	2	3	4	5
29. Feeling less intelligent or less capable than others	0	1	2	3	4	5

30. My family has very high expectations for my college success	0	1	2	3	4	5
<hr/>						
31. My academic background for college being inadequate	0	1	2	3	4	5
<hr/>						
32. My family does not understand the pressures of college (e.g., amount of time or quiet needed to study)	0	1	2	3	4	5
<hr/>						
33. Being the first in my family to attend a major university	0	1	2	3	4	5

Qualitative Open-Response Questions  
(developed by primary researcher)

1. In what ways does your identity as a Black woman shape and/or impact how you are treated by others (e.g., professors, peers, etc.) at your current academic institution? If not applicable, write N/A.
2. Based on your response to the previous question, do you believe that these experiences impact your health and wellbeing - including physical, emotional, and psychological? If so, in what ways? If not applicable, write N/A.

Demographic Questionnaire  
(adapted and modified from Talleyrand, 2002; Connolly, 2011)

1. What is your age?
2. What is your gender identity? (for example female, cisgender; male, transgender)
3. What is your racial identity? (Check all that apply):
  - Black/or Afrikan descent
  - Latino/Hispanic
  - Mixed race; multiracial
  - Asian or Pacific Islander
  - Native American/Alaska Native/Indigenous Person to North America, South America, Australia, New Zealand
  - White
  - Other:
4. Do you identify with a specific ethnic group? (for example Yoruba, Akan, Afro-Caribbean, etc.) If yes, please identify here. If not, write N/A.
5. What is your country of birth?
6. What is your sexual identity? (for example gay/lesbian, heterosexual/straight, bisexual, pansexual, asexual, queer/questioning, etc).
7. What is the name and location (state) of your college/university? (for example, University of Washington, WA)
8. Is your college/university public or private?
  - Public
  - Private
  - Not sure
9. What is your degree program and what year are you currently? (for example, Master of Social Work, 2nd year; Juris Doctor, 3rd year; PhD Global Health, 4th year)
10. What is the estimated percentage of Black graduate/professional students at your college/university?
 

What is the estimated percentage of Black graduate/professional students in your specific program?
11. Are you a parent? (biological, foster, adoptive, step-parent or other)

Yes

No

12. Do you or have you previously had a clinical diagnosis of depression?

Yes

No

13. Do you or have you previously had a clinical diagnosis of an eating disorder?

Yes

No

14. How would you describe your immediate family's socioeconomic status?

Less than \$20,000 annual household income

\$20,000 to \$34,999 annual household income

\$35,000 to \$49,999 annual household income

\$50,000 to \$74,999 annual household income

\$75,000 to \$99,999 annual household income

Over \$100,000 annual household income

15. How would you describe your current socioeconomic status?

Less than \$20,000 annual household income

\$20,000 to \$34,999 annual household income

\$35,000 to \$49,999 annual household income

\$50,000 to \$74,999 annual household income

\$75,000 to \$99,999 annual household income

Over \$100,000 annual household income

16. Are you food secure?

"Food security" is defined as having availability (sufficient quantities), access (income and resources), and consumption (adequate dietary intake and absorption) of food that meets your dietary needs for a productive and healthy lifestyle.

Yes

No

Not sure

Appendix D  
List of Mental Health Resources

If during or after the survey you feel distress and would like to connect with mental health resources, you can contact:

Mental Health America (MHA). Call 1-800-273-TALK (8255) to reach a 24-hour crisis center or text 'MHA' to 741741.

National Alliance on Mental Illness (NAMI). Call the NAMI helpline at 1-800-950-NAMI (6264) or text 'NAMI' to 741741 to connect with a trained crisis counselor to receive free, 24/7 crisis support via text message.

National Suicide Prevention Lifeline. Call 800-273-TALK (8255) to speak with a trained crisis counselor 24/7 closest to your location. Your call will be answered by a trained worker who will listen empathetically and without judgment. The crisis worker will work to ensure that you feel safe and help identify options and information about mental health services in your area. Your call is confidential and free.

Your participation in this survey is voluntary. You may refuse to take part in the survey or withdraw from the survey at any time without penalty. You may also skip or choose not to answer specific questions or items.

Appendix E  
Raffle Entry Page

Would you like to enter the raffle drawings for \$10 Amazon.com gift cards? If so, please provide your email address. You will be notified by email if you are a raffle winner at the end of data collection.

Your email address will NOT be linked to your responses and your answers will remain confidential and anonymous.

If you do not wish to enter the raffle, do not provide your email address and click 'submit responses.'

Appendix F  
Binge Eating Scale-7 with shaded boxes

The following questions ask about your eating patterns and behaviors within the last 3 months. For each question, choose the answer that best applies to you.

<b>1. During the last 3 months, did you have any episodes of excessive overeating (i.e., eating significantly more than what most people would eat in a similar period of time)?</b>	Yes	No
--	-----	----

*NOTE: IF YOU ANSWERED "NO" TO QUESTION 1, YOU MAY STOP.  
THE REMAINING QUESTIONS DO NOT APPLY TO YOU.*

<b>2. Do you feel distressed about your episodes of excessive overeating?</b>	Yes	No
---	-----	----

Within the past 3 months...	Never or Rarely	Sometimes	Often	Always
<b>3. During your episodes of excessive overeating, how often did you feel like you had no control over your eating (e.g., not being able to stop eating, feel compelled to eat, or going back and forth for more food)?</b>				
<b>4. During your episodes of excessive overeating, how often did you continue eating even though you were not hungry?</b>				
<b>5. During your episodes of excessive overeating, how often were you embarrassed by how much you ate?</b>				
<b>6. During your episodes of excessive overeating, how often did you feel disgusted with yourself or guilty afterward?</b>				
<b>7. During the last 3 months, how often did you make yourself vomit as a means to control your weight or shape?</b>				