Examining Academic Self-Efficacy, Race-Related Stress, Psychological Well-Being, and Racial Centrality on Black Former Undergraduate Historically Black College Students Currently Enrolled in Graduate Predominantly White Institutions

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The purpose of this study was to examine the relationships among racial centrality, race-related stress, and psychological well-being on academic self-efficacy for Black former undergraduate HBCU and PWI students currently attending PWI graduate institutions. The following measures were used to test the research questions (a) a demographic questionnaire, (b) Mental Health Inventory (MHI; Viet & Ware, 1983), (c) Multidimensional Inventory of Black Identity – Racial Centrality Scale (MIBI; Sellers, 1998), (d) Inventory of Race-Related Stress-Brief Version (IRRS-B Utsey, 1999), (e) Graduate Education Self-Efficacy Scale (GESES; Williams, 2005). There were 200 participants, 74 former HBCU graduates and 126 former PWI graduates from undergraduate institutions.

ANOVAs, hierarchical multiple regressions, and canonical correlations were used. The findings indicate Black HBCU students had higher levels of racial centrality than those from PWIs. Racial centrality had a positive and significant relationship with race-related stress and psychological well-being. High racial centrality predicted high psychological well-being and high academic self-efficacy, while high race-related stress predicted low psychological well-being and academic self-efficacy. The findings differed from former HBCU students and former PWI students suggesting a need for continued research. This study highlights the fact that HBCUs
matter in promoting positive wellbeing, academic performance, centrality, and other protective factors. PWIs can also build programs based on monitoring, assessing, and hearing out current Black graduate students from former HBCUs.

*Keywords:* Race-related stress, Academic Self-Efficacy, Racial Centrality, MIBI, HBCU, PWI
EXAMINING ACADEMIC SELF-EFFICACY, RACE-RELATED STRESS, PSYCHOLOGICAL WELL-BEING, AND RACIAL CENTRALITY ON BLACK FORMER UNDERGRADUATE HISTORICALLY BLACK COLLEGE STUDENTS CURRENTLY ENROLLED IN GRADUATE PREDOMINANTLY WHITE INSTITUTIONS

by

Maime Butler

A dissertation submitted to the Graduate College in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Counselor Education and Counseling Psychology at Western Michigan University April 2022

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DEDICATIONS

I dedicate this journey to my HBCU, Dillard University, for guidance, sureness, strength, joy, and excellence. To Marvalene Hughes for starting me on my way, on this journey to higher education. Dr. Chambliss, Dr. Johnson, Dr. Frank, and Dr. Wismar, thank you for providing the foundation to my education and sense of self, belonging, and believing in my intelligence.

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CHAPTER 1

INTRODUCTION

Educational institutions are a primary source of obtaining knowledge, building identity, developing, and acquiring acceptable social skills and methods of communication (Kenny et al., 2003). These places of learning are responsible for cultivating our future business leaders, engineers, doctors, lawyers, and other important bodies that help sustain our country. Educational systems hold power over student development, shaping future endeavors students will gain interest in and pursue in later life (Ingels, 2014). These systems were created for White people and denied Black people entry into educational arenas. Black people, including Thurgood Marshall, Mary McCloud Bethune, and Booker T. Washington, are some of the leaders who created Historically Black Colleges and Universities to create access for Black people. Many Black high school students who are in search of a connection to their racial and ethnic identities seek out post-secondary education in places where they may feel more accepted and engaged to learn (Ingels, 2014). Recent statistics indicate Historically Black Colleges and Universities (HBCUs) award 30% of all bachelor’s degrees to Black students (National Center for Education Statistics, (NCES), 2017). These degrees come from 102 (51 public and 51 private) four-year institutions (NCES, 2017). Meanwhile, almost 60% of Black high school students choose predominantly White institutions (PWI) to further their educational goals (Nichols and Evans-Bell, 2017). The number of PWIs is much larger, including over 4,000 public and private institutions (NCES, 2019). The remaining 10% of Black high school students choose other sources to further education or training in specific fields (i.e., trade school, community colleges).

HBCUs represent 3% of post-secondary educational institutions (Pew Research Center, 2017) and produce a disproportionately high percentage of Black political leaders, lawyers, and
doctors (Wolf-Wendel et al., 2000). These institutions are also among the top 10 producers of graduate degrees among Black students (U.S. Department of Education, 2008). Although HBCUs are among the largest producers of Black graduate degrees, many Black HBCU undergraduates choose Predominantly White Institutions (PWI) for their graduate education (APA, 2012). Research suggests that Black undergraduate students attending PWIs may experience significant challenges (Cokley et al., 2003; Harper, 2009). These challenges impact Black students’ completion rates at PWIs according to several scholars (Harper, 2009; Shapiro et al., 2017). There has been very little research completed on the Black graduate student experiences at PWIs. Therefore, the present study investigates Black students’ graduate school experiences to add to the literature and recommendations for providing support for the transition from undergrad to graduate PWI programs for equitable education.

There are several disparities with graduation rates for Black students at PWIs and HBCUs. Shapiro et al., (2017) found that 45.4% of Black students who enroll in predominantly White undergraduate institutions graduate in six years, compared to 64.7% of White students. In 2014, when examining degree attainment at PWIs, the NCES (National Center for Education Statistics) found that only 11% of Black students obtained a bachelor’s degree compared to 68% of White students. Additionally, Black students at PWIs obtained 14% of master’s degrees and 7% of doctoral degrees compared to White students obtaining 68% and 76% respectively. Black students also had the lowest graduation rates (38%) in a four-year predominantly White institution compared to Asian and Pacific Islander (70.6%), Hispanic (53.5%), Native American (41.0%), and White (63.2%) students (NCES, 2014). Based on these statistics, it is clear that there are significant issues that plague Black student graduation rates at PWIs more than any other racial/ethnic minority.
For decades, scholars have been trying to understand what factors influence Black students’ academic success in HBCU and PWI settings, as well as what barriers exist (Kim & Conrad, 2006; Pillay, 2005; Sellers et al., 1998a; Williams 2014). Researchers have suggested that the socio-economic status of the students and racial make-up of the respective institutions play a role in the differences in matriculation, retention, and graduation rates for undergraduate students (Cokley, 2000; Gerardi, 1990; Nichols & Evans-Bell, 2017; Reeder & Schmitt, 2013; Sellers et al., 2006). Some researchers believe multiple variables, including self-efficacy, psychological well-being, and racial identity, play a role in academic achievement for Black undergraduate students at both HBCUs and PWIs (Cokley, 2000; Lockett & Harrell, 2003; Sellers et al., 2006). Despite substantial evidence that Black undergraduate students fare better at HBCUs than PWIs, there has been limited investigation into the experience of Black graduate students and possible connections or theories regarding academic success at either HBCUs or PWIs. This study focuses on the experiences of Black graduate students attending PWIs. Given prior evidence that Black undergraduate students fare better at HBCUs and PWIs, this study further examines how the experience of attending a PWI for graduate studies may differ for former HBCU students and former PWI students. Results are intended to inform how we understand Black students' experiences, the role of racial identity, race-related stress, psychological well-being, and self-efficacy. Results are also intended to help better understand social cognitive theory and its utilization on the development of academic achievement of Black students navigating educational systems rooted in racism.

Central to programmatic change efforts is recognizing and responding to the ongoing role of systemic racism in producing unequal outcomes for Black students. Systemic racism and discrimination reflect and sustain a history of persistent gaps in educational, economic, and social outcomes, as well as laws and policies that have dictated or enabled differential treatment across
Scholars have suggested that the psychosocial effects of racism can produce and maintain levels of conscious and subconscious stress in Black Americans (Carter, 2007; Chapman-Hilliard et al., 2017; Vontress et al., 2007). The conscious and subconscious stress of racism has the potential to influence many aspects of life for Black Americans (Pieterse et al., 2012), including mental health (Carter & Reynolds, 2011), learning and educational performance outcomes (APA, 2012; Sellers et al., 2006) and internal beliefs about the self (Bandura, 1994; Sellers et al., 1998). It is important to understand how racial consciousness, among other factors, affects experiences of racism. The aforementioned experiences of racism and conscious/subconscious stress may produce differential educational outcomes for Black students in post-secondary environments that do not affirm their identity and impact them in negative ways (Sellers et al., 2003a).

The educational system guides students’ identity development, beliefs about their abilities (i.e., academic self-efficacy), and eventual movement into post-secondary education (Lent et al., 2000). Institutional racism can impact children in the educational pipeline from preschool to high school. Furthermore, this impact can be harmful during the developmental process of Black students in the K-12 pipeline, thus influencing their desire to go to college or work immediately thereafter. Educational institutions (i.e., K-12, colleges, and universities) can also affect the development of Black students’ academic self-efficacy and racial identity (Tatum, 2017). Differential access and inequitable distribution of resources, lack of role models, and limited opportunities to interact with same-race teachers or professionals represent significant barriers for Black students across all educational levels (i.e., K-12, undergraduate, and graduate programs). Due to the relationships among psychological health, racial identity, and academic self-efficacy (Brittian, 2012), it is important to examine how institutional, cultural, and individual racism may
impact Black students’ matriculation, retention, and graduation from not only undergraduate programs, but graduate programs as well.

This study highlights academic self-efficacy in Black students from both HBCU and PWI undergraduate programs who pursue their graduate education at PWIs and explores the relationships among academic self-efficacy, race-related stress, psychological well-being, and racial centrality. While some studies have examined the relationship between racial identity and academic self-concept for undergraduate students, few studies have examined the relationship between academic self-efficacy and racial identity, and none have included the examination of academic self-efficacy, racial centrality, race-related stress, and psychological well-being for undergraduate and/or graduate students.

**Significance**

Whereas racism is rooted in the history of the United States and upheld institutionally, shifts over the past 50 years have generated consciousness about change and human rights, laws, and social movements. However, discrimination, bias, prejudice, and institutional and systemic racism persist. This persistence is often subdued in environments that try to cultivate cultural humility and seek to be inclusive by diversifying White spaces. However, these superficial attempts to create cultural awareness do not diminish the prejudice and bias that exists, making it more difficult for Black people to navigate the subtleness and insidiousness of racism in higher education. Black students often encounter discrimination and bias in their daily lives, as well as in higher education, that causes physical, psychological, and emotional harm. Although safety should be implied, it is not the case for many Black students. This lack of safety leads researchers to work to provide valid and reliable measures that document Black students' experience with race-related stress and the impact of racism and race-related stress on their psychological well-being and racial
identity. The effects of racism can contribute to low academic achievement, persistence, and degree attainment of Black students. However, at HBCUs where there is more homogeneity regarding race, students’ racial identity and perception of racism may be different than students at PWIs. This study seeks to identify how Black graduate students from different types of undergraduate environments (HBCU and PWI) regard racial identity and racism at predominantly white institutions. The findings can influence preparation at HBCUs for Black undergraduate students who will navigate predominantly white environments in the future.

HBCUs offer Black undergraduate and graduate students, minimally, safe space from interpersonal/individual racism and discrimination, although these institutions still face systemic and institutional racism. This safe space often creates buffers in dealing with racially hostile environments outside of campus. Additionally, they offer support systems, a racially congruent environment, good faculty-student engagement, and high expectations that are known and met by students (van Dinther et al., 2010; Negga et al., 2007). HBCUs also impact racial identity development for Black students who view race as a central part of their identity while also providing space to explore other identity variables such as gender and sexual orientation. There is little literature presently that captures Black students’ racial identity development at PWIs and its connection to race-related stress. However, it has been found that at PWIs Black undergraduate students demonstrate lower academic achievement, experience poor faculty-student engagement, isolation, high drop-out rates, and/or longer length of time in programs (Coleman et al., 2012). Although research has examined Black undergraduate students’ academic performance in both HBCUs and PWIs, it has failed to capture many aspects that play a role in the experiences that shape efficacy, and barriers to academic success in both environments. Additionally, much of the existing literature fails to capture graduate student experiences. The purpose of the present study
is to examine the factors that influence academic self-efficacy in Black PWI graduate students who attended either an HBCU or PWI for their undergraduate education. In the present study, “Black” or “Black American” are used to include Black/African descendants of African ancestry and the diaspora currently residing in the United States.
CHAPTER 2  
REVIEW OF THE LITERATURE

This chapter provides an in-depth review of factors that have been found to impact Black students’ academic self-efficacy. The literature review will also be used to develop understanding and hypotheses concerning the experiences of Black graduate students currently attending PWI graduate programs, with an emphasis on understanding how Black graduate students’ experiences may be impacted by whether they completed their undergraduate studies at an HBCU or a PWI. The literature review begins with a description of various types of post-secondary institutions, including a discussion of admissions practices and degree types. The second section summarizes history concerning HBCUs and the factors that contribute to Black students’ success and identity and provides an overview of potential factors that may contribute to differences in academic experiences at HBCUs and PWIs. The third section provides a detailed examination of academic self-efficacy, including how it is defined and formed, its relationship to self-concept, and more specifically, what academic self-efficacy looks like for Black students. The fourth section focuses on race-related stress and the role that stress in general, and race-related stress specifically, has on efficacy and motivation. The fifth section reviews the literature on psychological well-being, particularly the impact of mental health on educational outcomes for Black students. The sixth section focuses on racial centrality as a specific aspect of racial identity. Racial centrality is defined along with other methods of understanding racial identity, which is followed by literature that examines Black students’ racial centrality in Black and White institutions. This chapter concludes with an integrative summary of the specific variables being used in this study, and the need for continued research on key characteristics influencing academic self-efficacy in Black graduate students.
Types of Post-Secondary Institutions

There are several types of post-secondary institutions that serve the educational needs of those looking to advance their education, skills, and training. These colleges and universities can be public or private institutions, for-profit and not-for-profit, two-year and four-year programs, and research or teaching-focused, among many other differences (NCES, 2019). Private colleges can have a smaller number of students (e.g., 2,000) than public institutions (e.g., 30,000). Private institutions are also supported by their endowments, private funding, and tuition fees and often have higher tuition rates than public institutions. They are also more selective, use less federal aid to support students, and often recruit wealthier students. Private institutions select students with higher achievement scores (i.e., ACT/SAT) and can be more selective in general. Private institutions are often self-governed by a board of trustees or privately elected or appointed officials who act as the governing body and decision-makers and create their policies and educational attainment goals. All religiously affiliated colleges are private institutions as well. State and local governments mainly fund public institutions, resulting in more government created policies and goals (NCES, 2019). These institutions offer lower tuition rates for in-state students and lower tuition overall than private institutions. They are typically less selective, invite more out-of-state, low-income students, and students with lower achievement scores.

Colleges and universities differ in types of degrees conferred. Both confer baccalaureate degrees; however, colleges can be smaller and/or offer two-year degrees (i.e., associate degrees). Community colleges commonly offer two-year degrees and specialized trainings and certificates. Liberal arts colleges often emphasize undergraduate studies in liberal arts and sciences such as arts, humanities, mathematics, natural sciences, and social science. Universities often offer masters and doctoral degrees, in addition to undergraduate degrees, and have specific divisions within
named colleges (e.g., College of Liberal Arts). Research universities are larger institutions committed to graduate education through the doctorate level, with faculty completing research while teaching and graduate and doctoral students performing research for program completion requirements. Some colleges are single-sex institutions that allow only men or women in their programs. Specialized and mission-driven colleges are institutions that have a special focus on educating specific groups of minority students (e.g., HBCUs, Hispanic-serving institutions).

Public and private institutions can operate on a non-profit or for-profit foundation, meaning, non-profit institutions charge students tuition, which is used to support student development, fund professors and instructors, provide co-curricular opportunities, conduct research, and maintain the campus. For-profit institutions can be owned and operated by corporations or organizations and charge students higher tuition, using tuition for marketing and recruiting, among other uses that do not always center on supporting student development, or funding professors, or instructors. For-profit universities/colleges also receive around 90% of their revenue from federal financial-aid programs (Digest of Education Statistics, 2019).

Predominantly White institutions, also known as historically White institutions or traditionally White institutions, make up a majority of post-secondary educational institutions. PWIs are differentiated based on the composition of the college or university, primarily, being over 50% White (Allen et al., 1991). Predominantly White institutions reflect a history of segregation where Black people were not allowed to attend these institutions. Although Title VI of the 1964 Civil Rights Act banned discrimination based on race across white educational institutions, (U.S. Department of Education, 1991). The climate of PWIs post segregation was unaccepting towards Black students who integrated into the educational arena. After the 1960s, a push for equality and integration of Black students in PWIs led to Black students entering into
post-secondary education at high rates. From 1978 to 1979, 57% of all bachelor’s degrees were awarded to Black students at PWIs (Allen et al., 1991). Although desegregation and civil rights movement came and went, in the 1980s Black students continued to face degradation, discrimination, and hostility throughout their enrollment in PWIs. During the 1980s and 1990s, there was a decrease in Black student enrollment into PWIs. In the early 2000s that enrollment increased and continued to rise until 2016 and 2017 when it began to decline. Black students still face similar disadvantages at PWIs compared to their White peers that mirror the 1980s. Black students then and now struggle with persistence rates, academic achievement levels, enrollment in advanced degree programs, and overall psychosocial adjustments (Allen et al., 1991; Whittaker & Neville, 2010). Concurrently, other racial and ethnic minorities have seen a steady increase in enrollment rates at PWIs since 1976. In 2017 the enrollment at PWIs was 44% racial/ethnic minority students and 56% white students (NCES, 2018).

Today, 84% of predominantly White institutions, depending on public or private statutes, enroll over 90% of Black students enrolled in post-secondary education and have the resources to offer more financial aid resources than HBCUs (The Education Trust, 2017). With respect to Black undergraduate enrollment at PWIs, public institutions had the highest enrollment rate at 70%, with private non-profit enrolling 14% and private for-profit enrolling 16%. For Black graduate students enrolled at PWIs, 35% enrolled in public, 38% in private non-profit, and 28% in private for-profit institutions (NCES 2016). In 2017, 13.5% of Black undergraduate students and 14.2% of graduate students were enrolled in PWIs. Of those undergraduate students 12% were enrolled in public institutions, 13% in private non-profit and 29% in private for-profit. Graduate students during that same year were enrolled as follows: 37% public, 37% private non-profit, 21% for-profit institution (The Education Trust, 2017). Overall, PWIs far outnumber HBCUs and are often well-supported
and well-funded compared to HBCUs. Currently, 55 predominantly white colleges and universities have graduation rates in which Black student graduation rates are equal to or are higher than white students (The Education Trust, 2017). Within those 55 PWIs, 22% of Black student graduation rates are at or below five percentage points of White student graduation rates, meaning, Black students graduation rates are within 5% of White student rates, which is not typical for Black students at PWIs.

Historically Black Colleges and Universities are institutions created to serve the educational needs of Black or African-identifying students. They were established during the Jim Crow period in the South when Black people were generally denied admission to PWIs (U.S. Department of Education, 2008). Prior to the 1900s, HBCUs provided elementary and secondary education for people with no prior education. In the 1900s these institutions began to provide post-secondary courses and programs for technical and trade industries.

Although slavery was officially abolished on June 19, 1865, despite the Emancipation Proclamation being signed two and a half years prior, Cheyney University in Pennsylvania was the first established HBCU in 1837. Originally called the African Institute, it opened its doors to educate African descendants in reading, writing, math, mechanics, and agriculture. The founder Richard Humphreys envisioned the institute training teachers who would train more Black men and women. In 1902 the school purchased and relocated to a 275-acre farm, received state funding in 1914 as a training institution for teachers, and in 1983 changed its name to Cheyney University of Pennsylvania.

Historically Black Colleges and Universities were created to give Black students an opportunity to enhance their learning and build community with each other. The current 102 public and private HBCUs, also have Black Ivy League institutions (e.g., Howard, Dillard, Spelman,
Fisk) that much like the predominantly White Ivy league institutions (e.g., Harvard, Yale, Brown, Princeton) serve as the top tier of HBCU education. Although some HBCUs like the Black Ivy League and other institutions are more selective when it comes to achievement scores, HBCUs generally bring in more low-income students and are often less selective with SAT and ACT scores. Many offer lower tuition rates than PWIs.

Today, HBCUs still serve as the principal means for providing post-secondary education to a largely Black student body, although, they are diverse and accept non-Black students (APA, 2012). Black student graduation rates at HBCUs are vastly higher than at PWIs. Black students also achieve higher success after graduating from HBCUs contrasted with PWIs; HBCUs produce 75% of all Black doctoral-level graduates (NCES, 2020). HBCUs offer several benefits for Black undergraduate students; they promote positive psychological growth and adjustment, strong awareness of cultural issues and racial identity, and they establish strong academic performance (Gilbert et al., 2006). HBCUs provide a social and psychological outlet that positively impacts Black students’ success. Undergraduate Black students at HBCUs experience engagement, acceptance, and encouragement from faculty, peers, and administration (Allen, 1992).

**Black Students’ Academic Experiences**

When evaluating graduation rates in post-secondary institutions, it is clear that Black students excel at some colleges and universities over others (AACU, 2017). While statistics show a gap between Black and non-Black students’ graduation rates, research has not captured the critical variables for understanding why this gap persists. At HBCUs Black students have a graduation rate of 37.8%, and the six-year graduation rate for Black students is 32.1%. Although the numbers could be higher for HBCUs (as well as PWIs), the difference in graduation rates leave more questions about Black students’ experiences that create such gaps. More than ever before,
Black students are entering into HBCUs for post-secondary education in search of cultural enrichment, encouraging academic support, inclusivity, and community. However, there have been longstanding debates about the academic preparation, rigor, acceptance of lower test scores and GPAs, and lack of “real world” experiences that seem to be synonymous with HBCUs. Oftentimes, beliefs about Black students from HBCUs being intellectually inferior influences decision-making on school attendance. Due to these beliefs, Black students often find themselves choosing schools that either offer prestige or cultural nourishment and support, implying that one institution cannot do both.

Many researchers suggest that academic self-concept and academic self-efficacy are critical predictors of academic achievement among college students (Awad, 2007; Cokley, 1999, 2002; Cokley & Patel, 2007; Constantine et al., 2004; Geradi, 1990; Reynolds 1988; Reynolds et al., 1980). These predictors may also help to understand differences in experiences of Black students at HBCUs and PWIs. At HBCUs, Black undergraduates may experience the positive development of self-concept and self-efficacy, which have several benefits such as positive psychological growth and adjustment (Kim & Conrad, 2006). Vicarious learning through observation of students who are similar may support self-efficacy and academic performance in HBCUs, more than those at PWIs.

In predominantly Black educational settings, students may compare themselves to other Black students’ academic performance based on their perceived academic ability and intelligence without the influence of racial bias, therefore experiencing healthy developmental growth both academically (i.e., self-concept and self-efficacy) and psychologically. These developmental supports are critical as HBCUs accept more Black students from lower socioeconomic status and impoverished environments, first-generation college students, and students with lower ACT/SAT
scores and GPAs than do PWIs (NCES, 2015; Nichols & Evans-Bell, 2017). Due to institutional racism, many Black students may enter college underprepared from educational institutions throughout development that did not properly support Black students academically or provide access to resources, and information about educational and career options (Rothstein, 2015).

For example, Kim (2002) found that Black students at HBCUs are academically less prepared (e.g., high school grades and SAT composite scores) than Black students at PWIs. Black students’ self-perceptions of math and academic abilities (e.g., “rate yourself on academic, writing and math ability trait as compared with the average person your age”) were higher among Black students in PWI settings. Kim also found that Black students’ SAT scores were higher at White institutions than those at HBCUs. The poor academic preparation, as well as contextual factors (e.g., SES), reflect in part oppressive forces present in educational contexts. One of those oppressive forces is the lack of resources and access to equitable tools in K-12 schooling. This is caused by structural racism that divests from Black and Brown communities causing educational institutions to be poorly funded, and thus unable to meet the needs of Black students comparably to other educational institutions that are financially backed.

Further, self-efficacy, which can be presumed to impact Black students’ academic success, is reinforced by environmental factors, previous academic outcomes, physiological state, vicarious experiences, and verbal persuasion (Bandura, 1986; Lent et al., 2002). In specific, mastery experiences, modeled experiences, social persuasion, internal stress, and performance are connected to motivational outcomes, achievement, and ones’ ability to self-regulate. According to Bandura, how Black students understand their performance is pertinent to their beliefs about self. The development of self-efficacy is shaped through triadic reciprocity among personal factors (e.g., thoughts, belief, skills, affect), behaviors, and social/environmental factors (Shunck &
Mollen, 2012). For Black students in inequitable learning spaces, instruction, reinforcement, and modeling impact how they see their own ability to succeed, and learn the tools to achieve, through their choices, efforts, and persistence. These experiences can be effective strategies for learning that will influence their efficacy beliefs.

Structural concerns such as socioeconomic status, racism, and inferior academic preparation, contribute to the underdevelopment of Black students’ academic skills throughout their academic development (Bonilla-Silva, 2010; Sellers et al., 1998a). In the university setting, Black students may experience this underdevelopment in academic preparation leading to lower performance in class when comparing themselves to their White peers. This may lead to questions about their own academic abilities when they receive lower grades than their White peers, as well as questioning the racial bias of professors (Awad, 2007; Bynum et al., 2007; Reid, 2013). There is evidence that Black students at PWIs may perceive unfair evaluations and feedback due to racism, discrimination, and prejudice (Ancis et al., 2000; Cokley, 2000; Sellers et al., 1998a). However, perceptions of racial discrimination and prejudice may be connected to how central race is to students (Chavous et al., 2003; Cokely, 1999; Cokely & Chapman, 2008).

Pieterse and Carter (2010) stated that the centrality of one’s racial identity would affect the perception of, and navigation through, racially hostile environments (e.g., PWIs). Black students with higher racial centrality may be more vulnerable to experiences of racism and race-based discrimination in classroom settings (Sellers et al., 1998a). Thus, experiences of academic development at PWIs may differ from those at HBCUs. Perceived racially hostile transactions that threaten Black students can negatively impact psychological well-being, causing distress (Gilbert et al., 2006; Harrell, 2000). While in undergraduate HBCU programs, Black students experience less psychological distress due to racism or race-based discrimination than their counterparts at
PWIs, potentially leading to different impacts on academic self-efficacy (Jackson-Franklin & Carter, 2007).

**Academic Self-Efficacy and Self-Concept**

**Development of Academic Self-Concept and Self-Efficacy**

Academic self-efficacy is, in part, formed in educational institutions which are the primary source for cultivating students’ academic development (Schunk, 2012). Educational institutions have been found to impact important developmental milestones influencing academic self-efficacy, the formation of identity, and the outcomes students believe they can attain (Aronson et al., 2002). Researchers have described differences in academic self-concept and academic self-efficacy among Black students attending HBCUs and those attending PWIs (Awad, 2007; Chavous et al., 2003; Cokley, 2003; Sellers et al., 2006). Although academic self-concept and academic self-efficacy share some similarities, noting the differences is key to understanding both. Self-concept is defined by Rosenberg (1979) as “the totality of the individual’s thoughts and feelings having reference to themself as an object” (Bong & Skaalvik, 2003, p. 2). Self-concept is grounded in the idea that the way people perceive themselves influences the way they act, which in turn influences the way they perceive themselves (Bong & Skaalvik, 2003). Academic self-concept reflects many factors such as the judgments made of ones’ competence in accomplishing a task, stability across time and domain, and knowledge and perceptions about self in relation to achievement (Byrne, 1984). It is important to understand the construct of academic self-concept in different racial groups.

When examining findings on academic self-concept, we note important differences for Black and White students. Cokley and colleagues (2003) conducted a study on academic self-concept of African American and European American college students. The results supported the
factors that are incorporated in ones’ academic self-concept, such as self-doubt, study habits, negative performance expectations, rewarded efforts, evaluations of ability, and confidence in academics. However, the relationships among these factors were different for Black students in comparison to White students. Cokley et al. noted that Black students’ self-doubt about their abilities was not related to their beliefs about academic performance but was related to their belief about their academic preparation. In contrast, White students’ self-doubt about their abilities was related to belief about their academic performance. More research is needed to understand the cultural factors that influence the development of academic self-concept. Specifically, how the differences in reporting among Black and White students may be consistent with racial differences and treatment of Black college students. A central contribution for their study is the differentiation between self-efficacy and self-concept, the factors that contribute to ones’ self-efficacy in specific environments that may challenge and shift self-efficacy, and the subsequent recommendations concerning future research on each. Findings suggest that Black students can develop negative expectations about school while being satisfied with their efforts. Further, Black students’ self-doubt is unrelated to academic performance and more connected to academic preparation. These findings, although important, contrast to the perspective in the present study that negative expectations and beliefs about ability would impact ones’ academic performance. While considering the process of development and stability over time of self-concept, the current study focuses on Black students’ current beliefs that they can achieve and how environmental messages may lower their thoughts about their own academic ability. Examining beliefs about one’s ability to achieve when in academic environments that may threaten their achievement academically reflects the idea of self-efficacy, a construct different from self-concept.
Bandura defined self-efficacy as “the conviction that one can successfully execute the behavior required to produce [specific] outcomes” (Bandura, 1997, p. 131). Self-efficacy involves: the effort one exerts in required tasks, the ability to persevere while enduring obstacles and failures, as well as resilience to those obstacles and other adversities, negative or positive cognitions, how much stress and depression are experienced in coping with taxing environmental demands and the level of accomplishments realized (Bandura, 1997; Shunck, 2001). Academic self-efficacy refers to individuals’ convictions that they can successfully perform specific academic tasks at designated levels (Schunk, 2001). Academic self-efficacy is influenced by the following: (a) beliefs regarding past successes, (b) overcoming temporary failures, (c) comparison to others performance of specific tasks (d) persuasive communication and evaluative feedback, and (c) physiological arousals that lead to self-efficacy adjustments through their effects on cognitive processing (Lent & Maddux, 1997; Maddux, 2016). Past experiences, social comparisons, and reinforcements from significant others are antecedents to the development of one’s self-efficacy (Bong & Skaalvik, 2003).

When considering the antecedents to self-efficacy, it is helpful to understand the contextual variables that influence it. According to social cognitive theory (SCT), (Bandura, 1997) person inputs (e.g., gender, race) and contextual factors (e.g., social class, parents educational levels) impact self-efficacy beliefs and outcome expectations through relevant learning experiences. Performance accomplishments, vicarious experiences, and verbal persuasion are the most influential factors that impact academic self-efficacy (Lent et al., 2000). Contextual variables such as race and ethnicity have a profound impact on learning due to social comparisons with those who hold similar characteristics and abilities. These comparisons are important when building self-efficacy through vicarious experiences, which are influenced by perceived similarity between the
observer and the model; and verbal persuasion which may take the form of information from educators that one possesses the capability to perform well (Schunk, 2012b). Vicarious experiences are stronger for Black students when the model being observed is Black and deemed to be trustworthy and competent. For example, when Black students see Black professors, doctors, lawyers, or politicians succeed, they feel more able to achieve similar accomplishments. Similarly, Black students who observe other Black students’ behavior learn more socially acceptable ways to engage in the classroom, and more effective study habits, which can influence positive self-efficacy development. Attending an HBCU may provide Black students with stronger and more relevant vicarious experiences of academic success. Black students attending an HBCU may also be more apt to accept verbal feedback from same race students, faculty, staff, and alumni with high or similar academic achievements and investments. However, at PWIs development of academic self-efficacy may differ due to the ambiguity of racial prejudice. PWIs may have a different effect on Black students’ vicarious experiences and verbal persuasion due to the perceived difference in non-Black peers and faculty, lack of trustworthiness in the source, as well as perceived differences in comparing oneself with their White peers.

Experiences of implicit racial bias, discrimination, and racism are contextual influencers on self-efficacy, suggesting that typical formation and affirmation of academic self-efficacy may develop differently for Black students, as compared to White students (Luzzo & McWhirter, 2001). Black students who work hard to perform well in class, but receive criticism, negative feedback, and experience less academic success than their peers may develop lower grades and lower self-efficacy (Kenny et al., 2003). Vicarious experiences in observing other students’ accomplishments and failures can influence one’s belief that they can or cannot achieve a goal (Schunk, 2012a). For Black students in predominantly White educational settings, vicarious
learning can negatively impact self-efficacy due to the effort exerted in a particular task, especially if met by failure while observing others in the class exert similar or less effort and attain a higher grade (Allen & Strong, 1996). However, due to the systemic issues, such as lack of educational resources, in comparison to their White peers, or peers in higher socioeconomic status, Black students may feel underprepared and lose motivation to continue (Franklin et al., 2016; Hackett & Byers, 1996). Verbal persuasion and encouragement from others are affected by the perceived expertness, attractiveness, and trustworthiness of the source (Schunk, 2012). Verbal persuasion and encouragement can be tainted if Black students do not trust their White professors’ positive feedback, or if they receive negative feedback consistently from White professors they trust (Miller & Brickman, 2004).

SCT theory operates under the premise that human achievement is influenced by interactions between behaviors, personal factors (e.g., thoughts, beliefs), and environmental conditions (e.g., socioeconomic status, educational settings) (Schunk, 2001). Self-efficacy beliefs contribute to the formation of academic interest and influence performance (Bandura, 2012). When learning, one obtains information to appraise their self-efficacy from actual performances, vicarious experiences, persuasions received from others, and physiological reactions (Bong & Skaalvik, 2003; Schunk, 2001). Black students experience intellective (e.g., grades in school) and non-intellective (e.g., social-economic barriers faced at home) factors that contribute to building self-efficacy, in their formative educational experiences (Lent et al., 2005). However, when considering personal and contextual factors, one must also consider the economic and educational inequalities that cripple the educational foundation in which Black children are learning. School-related experiences are an important part of children’s development which determines early paths to important life outcomes (Byrne, 1984).
Lent et al. (1997; 2005) and Bandura (1997) state that experiences that are a normal part of development shape academic self-efficacy; these experiences are drastically different for Black and White children. Institutional barriers such as lack of access and resources (e.g., proper textbooks, access to technology) are pertinent factors to explore when considering contextual factors that affect Black students’ academic self-efficacy (Pintrich, 2003). Systemic and institutional disenfranchisement of Black communities and financial divestment from educational resources and access can limit the amount of exposure to potential academic interests (chemistry, engineering, medical doctor, lawyer, etc.). This lack of exposure is evident by Black students not having access to technological, science, and engineering programs or resources that would cultivate their ability to accomplish tasks that require these types of learning. The skills acquired in those potentially appealing fields enhance interest and confidence in ability to achieve and have greater performance accomplishments (Eccles et al., 2006). Underprepared and/or racially biased teachers may undercut Black students’ academic self-efficacy by stereotyping, assigning classroom placements that are not fit for learning or behind in pace, unjust suspensions and expulsions due to racial profiling, and refusal to teach underperforming students (Pintrich, 2003; Constantine et al., 2004). These experiences alone can have a deleterious effect on academic self-efficacy for students as they gradually reach high-school and college educational settings (Coleman et al., 2013).

According to Pintrich and Schunk (1996), academic self-efficacy tends to decline as students advance through school due to greater competition, more norm-referenced grading, less teacher attention to individual student progress, and stresses associated with school transitions. Due to efficacy being a function of expecting that certain behaviors will lead to positive outcomes when teachers provide verbal persuasion in the form of positive feedback and encouragement, they
reinforce academic self-efficacy and the subjective value of that reinforcement. Positive outcomes, such as studying longer leading to higher grades on tests, create greater valued reinforcements, such as an “A” in the course, further increase self-efficacy and create higher outcome expectations (e.g., taking more intense courses) for students (Bong & Skaalvik, 2003; Bandura, 2012).

Students who do not doubt their learning capabilities, feel efficacious in learning and performing academic tasks, participate more readily, work harder, persist longer when they encounter difficulties, and achieve at higher levels, thus choosing future oriented goals that are higher and much more difficult to accomplish (Schunk, 2001). Students’ academic self-efficacy beliefs influence task choice, effort, persistence, resilience, and achievement (Bandura, 1994, 1997; Reid, 2013; Schunk, 2001). Contrastingley, students who are less academically prepared to cope with increasingly challenging academic tasks, find their performances inferior to their peers and tend to have weakened academic self-efficacy (Harper & Tuckman, 2006). This weakened academic self-efficacy can have a negative impact on one’s emotional and psychological state, which in turn can cause weakened academic self-efficacy.

Although anxiety and negative emotions can be debilitating for some (Constantine et al., 2005), they are not always a determinant of academic success (Pajares & Kranzler, 1995). How an individual construes the demands placed by the environment can have a dramatic impact on their ability to cope with that environment (Brown, 2008). The difference between threat and challenge for Black students can impact academic self-efficacy, such that demands viewed as threats can diminish trust in the person teaching, lowering the amount of information being processed (Zajacova et al., 2005). Zajacova et al. (2005) found that acculturative stress and race-related stress were viewed as a threat to the development of academic self-efficacy.
Students acquire academic self-efficacy through cognitive processes in which they have confidence in their ability to complete a task, solve a problem, or employ a more calm and thoughtful approach (Brown, 2008). Physiological and emotional indicators (e.g., stress and anxiety) contribute to self-efficacy beliefs. When students experience negative thoughts and anxiety or stress about their ability to complete a particular task, academic self-efficacy can be lowered. However, when the emotional or physiological reaction can be regulated to effectively perform a task, and the student does well, it can increase academic self-efficacy (Schunk, 2012a).

Self-regulation involves metacognition, which is the appraisal and control of one’s cognitive activity (i.e., thinking about thinking) and making use of all resources available in social environments to achieve goal attainment (Bandura, 2001). Making decisions in complex environments involves integrating large amounts of diverse information, interpreting feedback, testing and revising knowledge, and implementation (Shunck & Mullen, 2012). Black students who come from HBCUs and attend PWI for graduate education may experience difficulty interpreting feedback and adjusting due to an increase in racial stressors, lack of knowledge regarding resources, and lack of same-race mentors. Metacognitive strategies that involve planning and self-regulation are important as Black students move into predominantly White educational environments from predominantly Black institutions. Black students may experience an unfamiliarity, unknown expectations, and may be less ordered and constrained, which may impact the structuring of important academic tasks and regulation of emotional experiences (Brown, 2008). When encountering the educational environment at a PWI, Black students may struggle with experiences of racial discrimination and prejudice, as well as new and more difficult expectations, creating an imbalance of negotiating racial hostility and learning (Bernard et al., 2017). Black students who attend a PWI for undergraduate and graduate education may not
experience as many difficulties in their graduate studies due to having a familiar environment that requires minimal adjustment in interpreting feedback, racial stressors, and lack of same-race mentors. However, during their undergraduate experience, they may have required significant adjustment upon entering, including academically shifting, learning how to socially engage, and being away from familiarity.

**Black Students’ Academic Self-Efficacy**

Hackett and Byars (1996) discussed the impact of socialization on Black students’ development of academic self-efficacy through physiological or emotional arousal. For Black students, this arousal can impact areas such as standardized testing, mathematics anxiety, and apprehension to fields such as science and technology, as well as ability to regulate emotions, find motivation to be successful, and goal setting. If physiological arousal can influence self-efficacy in those areas, the impact can be hypothesized to impact learning and performance overall. Graham’s (1994) review of case studies on academic motivation in African Americans asserts that when expectations are high and set for African Americans students, they often fall short in their performance. However, these students may maintain optimism in future tasks and performances. Falling short of their performances while maintaining a sense of optimism can provide evidence for resilience based on academic self-efficacy. However, it also leaves a question as to why Black students tend to not meet expectations. Graham’s analysis did not examine this question, nor thoroughly describe and define factors that would influence the results.

The difference between past performance and future expectations is counter to theoretical expectations and may reflect Black students experiencing unpredictable environments where punishments and rewards regarding performance are inconsistent or inaccurate. Black students experience racism that may result in differential access to career related experiences and interest
and help, lowering their outcome expectations (Alliman & Turner, 2010). These influences can impact self-efficacy in specific subject areas, especially when adding the impact of racism on physiological arousal. Black students’ math self-efficacy has been uniquely predicted by verbal persuasion and physiological arousal but not by prior performance accomplishments or vicarious learning in multiple studies (Alliman & Turner, 2010; Charleston & Leon, 2016). Structural racism impacts Black peoples’ exposure to successful educational experiences and career options, and culturally similar and influential models, thus diminishing the impact of vicarious learning on self-efficacy and outcome expectations (Hackett & Byers, 1996). There have been several findings that suggest that racial and/or ethnic identity can be a strong buffer for the negative impact racial injustice has on academic achievement experiences (Chavous, 2000; Cokley, 1999, 2000; Cokley et al., 2003; Cross, 1991; Hacket & Byers, 1994; Shunck & Mullen, 2012; Rodgers & Summers, 2008). Due to the influence of both external and internal variables on academic self-efficacy, more information concerning other factors that support and sustain academic self-efficacy for Black students in predominantly White educational environments, as well as what factors negatively impact academic self-efficacy is needed.

In considering how Black students develop in Black and White educational environments, understanding the key influences on academic self-efficacy is an important, yet understudied area. Lent et al. (2005) examined key variables in Social Cognitive Career Theory (SCCT) that would predict the interests and choice goals of engineering students at one PWI and two HBCUs. Lent et al. studied self-efficacy, outcome expectations, social supports and barriers, and interests and choice goals for 487 students in introductory engineering classes. A total of 221 (70 women and 150 men) participants were HBCU students. Of those students, 87% identified as Black, 2% White, 2% Native American, 1% Hispanic, 1% Asian or Asian American, and 7% multiracial. The
students were mostly first-year (76%) and second year (16%). At the PWI, 266 students were surveyed (52 women, 214 men). Of those students, 9% identified as Black, 63% White, 3% Hispanic, 22% Asian, and 3% other. The majority of students were first-year (80%) or second year (13%). Students at both HBCUs were found to report stronger self-efficacy, outcomes expectations, technical interest, social support, and educational goals than students at the predominantly White institution. Women at all three universities were found to report stronger social supports and weaker social barriers compared to men. The groups (PWI, HBCU) did not differ significantly in their experiences of social barriers regarding pursuit of engineering majors (Lent et al., 2005). Lent et al. also found that men and women did not differ significantly in regard to social cognitive variables in reporting similar levels of academic self-efficacy, outcome expectations, and technical interests.

The observed group differences regarding social barriers and supports may be related to variation in sample makeup across the three university campuses. At the HBCUs, over 80% of the sample was racially diverse, while only 9% of the PWI sample was racially diverse. Similarly, Women make up 31% and 20% in both types of institutions compared to 68% and 80% of men. The differences in representation of race and gender across campuses make it difficult to generalize findings, particularly the lack of differences in social barriers on HBCU and PWI campuses. Conceptually, we would expect that in HBCU settings, Black students can be expected to receive more support and fewer barriers than at PWIs. Specificity in the demographic information such as socioeconomic status, parent education level, high school GPA, and year in program would be an important addition in addressing and understanding the types of barriers that exist for both women and men in both types of institutions. Racial and ethnic identity also was not considered in this study, leaving to question potential variation in how one perceives racial stress or tension. Another
consideration would be to examine if sexism is perceived or noted as a barrier by these students. Black students’ preexisting self-efficacy was another important variable not examined when entering engineering courses at either the PWI or the HBCUs. It may also be possible that women who felt efficacious in their first semester and continued in their engineering program felt more support and fewer barriers than students who may have left due to lack of support and more barriers. It is also plausible that as these students were primarily first years, a lack of awareness of the views in the environment about women’s ability to be engineers may have added to lower perceptions of sexism as a barrier, thus, influencing their ability to get further in the field.

Prior studies on awareness versus naiveté support the implication that first-year students may have higher academic self-efficacy prematurely. For example, Gore (2006) evaluated the utility of the academic self-efficacy scale to predict post-secondary academic success and persistence in a longitudinal study. The study consisted of 629 first year college students (355 males, 294, female) at a predominantly White university. The participants’ racial/ethnic makeup was 78% White, 13% Black, 3% Latino, and 2% Asian. These students completed study instruments in the first two weeks and the last two weeks of the fall semester. The students’ ACT composite scores were obtained and evaluated (average 20.9). The College Self-Efficacy Scale (Solberg et al., 1993), Academic Self-Confidence (used to measure academic self-efficacy) (Le et al., 2005), achievement (ACT) and college outcomes (GPA and enrollment status) scores were obtained.

Gore (2006) found that college self-efficacy (CSEI) scores obtained from the end of the first semester were a statistically significant predictor of GPA. However, CSEI scores obtained at the beginning of the first semester were not a statistically significant predictor of GPA. CSEI was also strongly related to college persistence. More specifically, in examining first to second year
college persistence, this study found that students that experienced growth in their self-efficacy after their first semester in college had a greater likelihood of returning for the second year. This suggests strong self-efficacy beliefs and positive academic achievement outcomes can sustain performance and promote ambitious goals (Lent, 2013). As some studies suggest self-efficacy may decrease in higher education with time (Harper & Tuckman, 2006), this study suggests that as college students become more experienced, their self-efficacy beliefs become stronger with time; which aligns with the theoretical emphasis on the importance of performance accomplishments for strengthening self-efficacy beliefs through successful achievements, leading to greater academic achievements. These findings suggest that first year students may have lower academic self-efficacy in the beginning of the first semester due to inexperience (i.e., lack of personal performance accomplishments), which can impact performance and achievement goals (i.e., not having experienced performance accomplishments can decrease performance and goals for achievement). It is also possible that some students overestimated their abilities early in their first semester, contributing to the disconnection between self-efficacy and performance.

First year college students may struggle with the development of identity and comparisons to their prior ability to be successful in high school with being in college for their first semester (Bandura, 2001; Rodgers & Summers, 2008). After they have experiences during the first semester of college in which failure occurs or the prior ways of learning do not work, they adjust behaviors to be more successful and engage in learning effectively (Bandura, 2001; Schunk, 2012a). When these tactics are not successful, students cease persistence and disengage in tasks (Bandura, 1997; McClain et al., 2016). For Black students, this may be significant when challenged by White peers or professors, particularly when holding mistrust due to cultural or racial differences. Hackett and Byers (1996) state that Black people learn through messages from core and external family
members about how to interpret racial dangers and realities within White spaces. Black students can establish a vicariously learned identity while observing family and friends’ distrust and skepticism in White teachers, schools and other institutions; this may undermine academic performance resulting in low academic self-efficacy and motivation (Hackett & Byers, 1996; Ogbu, 1991).

In order to understand more about Black students’ perceptions of their abilities when faced with discrimination, Caldwell and Obasi (2010) studied 202 Black students from HBCUs and PWIs. HBCU students had an average ACT score of 22 which was higher than students at PWIs with ACT scores averaging 20. This study investigated cultural mistrust, educational value, and achievement motivation in predicting academic performance. Caldwell and Obasi found that cultural mistrust was negatively related to value of education and achievement motivation. Achievement motivation also mediated the relationship between cultural mistrust and academic performance. This study also found that the motivation to achieve and academic performance was moderated by educational value.

These findings suggest that cultural mistrust is a barrier for academic achievement as well as beliefs that one can have personal and socioeconomic success in their future. The finding that Black students who have higher levels of cultural mistrust have lower motivation to achieve has also been found in other studies (Cokley, 2003; Miller & Brickman, 2004). Those students who do not value education also lack the motivation to achieve and have lower academic performance. Black students who have a high value of education will have higher levels of motivation to achieve. These findings are relevant for many Black college students who may seek to further their educational experiences or strive for prestigious occupations. However, the findings also suggest
that cultural mistrust can negatively impacts students’ expectations for their futures, ultimately believing that personal and socioeconomic success in not possible.

In examining academic self-efficacy in Black students at both HBCUs and PWIs, there have been several factors that are important in the development of positive self-efficacy. Several scholars note a difference in Black and White students’ self-efficacy in HBCUs and PWIs (Cokley et al., 2003; Lent et al., 2005). Lent et al. (2005) further suggests academic self-efficacy is higher in first year students. Gore’s (2006) study also supports the idea that academic self-efficacy may be higher at the beginning of the first semester of college than it is later in development. It is notable, however, that Gore does not examine influential variables that may contribute to academic self-efficacy, such as, racial and ethnic identity, gender, socioeconomic background, traditional and non-traditional students, daily stress and psychological functioning, or race-related stress. Gore’s study also may have too small a sample size of Black students to evaluate these variables meaningfully. Collectively, these studies provide a good foundation for identifying gaps in the literature and a foundation for future research on academic self-efficacy of Black students.

In sum, the development of academic self-efficacy is influenced by ones’ environment, performance accomplishments, vicarious learning and verbal persuasion (Lent et al., 2005; Schunk, 2012; Witherspoon & Speight, 2009). During this developmental process, systemic barriers may inhibit access to educational resources that cultivate interest and learning, and limit the ability to experiment with, and have exposure to, influential or prestigious fields. If students do not have access to these fields to gain interests that may hold value, they may feel limited in educational attainment goals as well as career goals. Black students in White institutions may have limited exposure to same-race role models which can have a profound impact on their vicarious learning and verbal persuasion. Despite the important findings and implications examined in the
literature, there have been no studies that explore the gains or detriments to Black graduate students’ academic self-efficacy when coming from racially homogenous environments and entering environments that may be racially hostile.

**Racism and Race-Related Stress in Black Students**

To understand the connection of racism and educational disadvantages, one must be aware of the more insidious roots that need to be defined and examined. In the words of James Baldwin, "They [the children] were attempting to get an education, in a country in which education is a synonym for indoctrination, if you are whiter, and subjugation, if you are black" (1985, pp. 480). Racism may not only be overt in physical ways, but also mentally, emotionally, and physically, and can disrupt the lives of many people who face it (Graham, 1994; Harper & Tuckman, 2006). We live in a society where colorblind ideology and a minimization of racist beliefs, attitudes and behavior operationalize racism (Franklin et al., 2006). Several scholars have defined racism 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 non-dominant group members relatively excluded from power, esteem, status, and/or equal access to societal resources (Harrell, 2000; p. 43)

Jones (1997) discussed three types of racism: individual, institutional, and cultural. He defined individual racism as the belief in the inferiority of a racial group and institutional racism as the systemic oppression and exploitation of the non-dominant group. Cultural racism was defined as the ethnocentric and status quo maintenance of the dominant group. These three types
of racism occur in interpersonal, collective, cultural-symbolic, and sociopolitical contexts. Interpersonal racism can manifest through both direct and vicarious experiences of prejudice and discrimination (Allport, 1954). This involves interactions with other people and observations of actions that are verbal and nonverbal. Cultural and institutional racism provide a support of racist expressions on an interpersonal level. This collective context manifests through status and functioning of large groups of people in which racial disparities in educational achievement along with other disparities (e.g., legal system, employment, prevalence of disease) are maintained (Utsey & Hook, 2007). In the cultural symbolic context, racism is expressed in images and impressions of non-dominant racial/ethnic groups that are portrayed in the news and entertainment media, through art and literature as well as through research and scientific inquiry (Davis, 2018). Knowledge and communication of that knowledge reflects values and practices of scholars and academicians of the dominant group and upholds not only individual attitudes, and institutional practices, but also the accepted paradigms and common values within dominant culture (Allport, 1954).

Harrell (2000) further discusses the burden of providing proof of one’s experiences with racism. Harrell states the “my perception against your perception” dilemma may cause accusation of paranoia, hostility, oversensitivity, manipulation, and self-serving motives or having a chip on one’s shoulder for Black people. Stress comes from the specific racist incident, as well as the resistance of others believing, and validating the reality or significance of one’s personal experiences, which can cause damage to one’s self, and possibly self-concept (Pieterse & Carter, 2010). People of color may spend a great deal of cognitive and emotional energy on racism and experiences of racism (Murphy et al., 2012). For students, in classroom settings, energy spent on ruminating about incidents, resisting the beliefs others may have about their experience, and
treading through their own perceptions of interactions may influence their focus, and regard of themselves, and cause stress above and beyond the original incident (Reynolds et al., 2010). With that, some denial of racist events may act as a buffer on one’s psychological health and protect self-esteem (Cross et al., 1998). However, denial may also leave one unprepared for, and ultimately more vulnerable to, expressions of racism (McClain et al., 2014).

From a systemic standpoint, the continued exclusion of non-dominant groups in academia, and expression of stereotyped views in media, art and entertainment currently uphold racism (Davis, 2018). In the socio-political context, racism is manifested in political debate, public discussion about race, racial ideology, and policies and practices within institutions (Davis, 2007). Institutionally the sociopolitical context of racism influences policies and practices within organizations (Eccles et al., 2006; Rothstein, 2015). The total experience of racism involving exposure in interpersonal, collective, cultural-symbolic, and sociopolitical contexts is hypothesized to affect the unique life experiences, external circumstances, internal characteristics and behavior of racial and ethnic minorities (Jones, 1992). Although racial stereotypes, racial prejudice and racial discrimination are what help racism endure, the historical continuity of injustice and disparities through institutions and systems (Bernard et al., 2017; Bonilla-Silva, 2009) negatively impact educational resources, among other things, that further problematize opportunities of advancement for Black people.

Race-related stress is the psychological discomfort that results from a situation or event that an individual appraises as troubling because of racial discrimination or isolation (Franklin & Carter, 2007; Harrell, 2000; Utsey, 1998). Race-related stress and the complexity of the types of stress encountered by racial minorities has been explored conceptually (Harrell, 2000), measured (Utsey & Ponterotto, 1996), and used to inform studies and understanding of psychological distress.
(Carter, 2007). Outcomes of race-related stress on the brain and behavior have also been examined (Akbar, 199; Carter et al., 2017; Murhpy et al., 2012; Pieterse & Carter, 2010).

Harrell (2000) described six types of race-related stress: racism-related life events, vicarious racism experiences, daily racism micro-stressors, chronic contextual stress, collective experiences of racism, and the transgenerational transmission of group traumas. Racism-related life events are experiences that are significant, yet time-limited, and can lead to other events or have lasting effects. The event itself has a beginning and an end. These events include events like being discriminated against in housing, law enforcement encounters, and rejection for a loan, all based on race. For students’ these events may look like failing a class after performing well, or negative encounters with professors or peers and other staff members.

Vicarious racism is defined as experiences of racism viewed through observation and report (Harrell, 2000). Experiences of prejudice and discrimination that happen to members of one’s family and close friends and those involving strangers can cause distress. Vicarious racism experiences can cause anxiety, heightened sense of danger/vulnerability, anger, and sadness, among other emotional and psychological reactions. Daily racism micro-stressors are experiences that are a central part of understanding the dynamics of racism in contemporary America. Daily racism micro-stressors, which can also be described as micro-aggressions, are subtle, innocuous, preconscious or unconscious degradations and putdowns. Micro-stressors can happen on a regular basis and are constant reminders about race and racism. These micro-stressors can look like being ignored, being followed or observed in public or being mistaken for a server or worker in public spaces. These experiences can lead Black people to feel demoralized, dehumanized, and disrespected (Harrell, 2000).
Chronic-contextual stress reflects the impact of social structure, politics, and institutional racism on social role demands, and the larger environment within which one must adapt and cope. This stress intersects with class, race, and individuals who are in environments where survival and basic necessities needs are critical, blurring the lines of racism. Harrell (2000) states that chronic contextual stress is dependent on environment. As a result of institutional, cultural and individual racism, race-related stress differs from chronic or general life stressors due to social ostracism and blocked economic and educational opportunities. One implication suggests that racially minoritized people in predominantly White environments may experience more chronic-contextual stress based on the level of perceived racism. Another implication is those who do not have the time, energy, and/or understanding to question the dynamics of their life stressors (e.g., lower SES, limited access to proper work, single parents) in relation to racism, may become limited to a focus on survival. Due to the cognitive toll of racism, Black students may choose to ignore individual, institutional or cultural levels of racism in order to accomplish school related achievements in order to graduate, as well as working to provide for self and family rather than give energy into the racist systems. Hughes et al. (2006) note other factors that can also influence how one perceives race-related stress, such as familial and socialization influences, racial salience, sources of stress, and internal processes such as self-esteem and self-efficacy.

Racialized experiences may also be experienced differently for Black people with different contextual factors. For instance, Stevenson et al. (2005) expand on the sociopolitical context and regional/geographical location that can influence the nature of racialized experiences impacting Black youth. Research has also found that Black people who live in poverty may experience the intense and chronic impact of institutional racism that reflects disparities in educational resources, health, and housing equity (Leitner et al., 2016). While findings state that Black people who have
higher incomes have been found to have lower race-related stress than those who have lower income (Franklin-Jackson, & Carter, 2007), Black people who are in the middle or upper income may encounter inequitable economic and career advancement opportunities, subtle interracial tensions, and micro stressors (Hughes et al., 2006).

Collective experiences of race-related stress can be observed and felt on an individual level through perceptions of racism that affects members of the same racial/ethnic group (Crenshaw, 2018). For instance, family members of Black victims who have been shot and killed can experience immense stress. Additionally, victims of racial profiling who are Black, people who are connected to the victim, as well as those who identify as Black, experience stress and fear associated with racial profiling (Crenshaw, 2018). For Black people, the history of slavery and the long-lasting effects on Black Americans today can be an example of transgenerational stress (Franklin et al., 2006). Transgenerational transmission of any conceptualization of race-related stress must include consideration of the unique historical contexts of diverse groups (Harrell, 2000). Additionally, Carter et al. (2017) suggested that one must be able to recognize their experiences with race-related stress, indicating that one’s racial identity may play a role in recognition and experience of it, and the negative toll it may take.

Carter and Reynolds (2011) explored emotional states evoked by race-related stress, examining whether emotions varied due to the influences of racial identity status attitudes and the types of race-related stress. They noted the lack of literature that pertains to race-related stress and the emotional toll connected to racial identity. They administered the Index of Race-related stress (IRRS), People of Color Racial Identity Attitudes Scale (POCRIAS; 1995), and the Profile of Mood States-Short Form (POMS-SF; 1992) in a sample of 229 Black adults. Findings indicate a statistically significant relationship with gender and SES on race-related stress and racial identity.
Black women were more likely to experience race-related stress in the form of institutional and cultural racism than Black men. The authors also found that race-related stress had a negative effect on mood. Racial identity was also associated with several mood states. Specifically, conformity status attitudes were associated with feelings of anger, depression, confusion, fatigue and tension, while internalized attitudes were related to less intense emotional reactions. Further, racial ideologies such as colorblind attitudes have negative outcomes for Black people, which has also been supported in findings from Neville and Lilly (2000).

Franklin-Jackson and Carter (2007) explored the relationships between racism as a form of stress on individual, institutional, and cultural levels, Black racial identity status attitudes, and psychological health. Results of this study document differences in experiences across racial identity statues. For example, immersion-emersion status attitudes were statistically significantly related to experiences of race-related stress for Baptist church members. Yet race-related stress was not statistically significantly related to psychological health for this group. Black people who share community with other Black people have higher awareness of individual racism, and thus experience more race-related stress. Due to being in a church with other Black people, however, racial identity and religious beliefs may be a buffer preventing race-related stress from becoming psychological distress. In contrast, higher pre-encounter attitudes correlated to higher levels of psychological distress, and less awareness of racism cultural racism. Internalization attitudes were correlated with higher levels of awareness of individual and cultural racism and lower levels of psychological distress.

These findings are a significant contribution to the literature in understanding how pre-encounter racial identity attitudes correlate to more psychological distress and less awareness of racism. Whereas internalization racial identity attitudes had higher level of awareness of race
related stress but also lower levels of psychological distress. Although these findings are supported throughout literature (Awad, 2007; Chavous et al., 2003; Lockett & Harrell, 2003; Sellers et al., 2003; Smalls et al., 2007), the current study builds on them by examining how academic achievement may be impacted by factors such as race-related stress and psychological well-being, depending on ones’ racial identity.

Race-related stress can be expected to impact learning experiences. In educational environments, certain types of stress can negatively impact learning performance (Carlson, 2013). Developmentally, stress on the brain can impact learning, one’s ability to regulate emotions, decision making, and cognitive functioning and processing (Carlson, 2013; Murphy et al., 2012). LePine et al. (2004) found that learning performance was negatively affected by hindrance stress (i.e., experiences that block academic growth). If Black students experience such threats or hindrances, there is little room for the development of their academic self-efficacy. However, challenge stress (i.e., experiences that cause an expansion to academic development) was positively related to learning performance. This indicates that students who feel safe and unhindered by their educational institutions will experience fewer barriers to learning and retaining information (LePine et al., 2004). These students may also experience growth when challenged academically or pushed to further their knowledge in specific areas. In contrast, research suggests that for Black students, race-related stress experienced while navigating predominantly White, or racially hostile spaces may cause lower academic achievement, thus predicting lower academic self-efficacy (Greer & Chwalisz, 2007).

Neville et al. (2004) examined the impact of race-related stress on college students’ academic, psychological, personal, and social adjustment. Neville et al. (2004) measured perceived stressors with the Black Student Stress Inventory (BBSI; Edmunds, 1984), psychological distress
with The Global Symptom Index (GSI) of the Brief Symptom Inventory (BSI; Derogatis & Spencer, 1982), neuroticism using The Big Five (Goldberg, 1992), and lastly, academic adjustment, using the American College Test (ACT). The purpose of their study was to add to existing literature examining the influence of both general and race-related stress on African American college students’ psychological and academic adjustment, using psychometrically sound instruments with students across first year to senior year. In their sample, 260 Black students were studied, including 1st years (n=28), sophomores (n=33), juniors (n=40), and seniors (n=28). Neville et al. completed a principal components analysis to examine the factor structure of the BSSI, and identified three factors: 1) race-related stressors (BSSI-R), 2) psychological/interpersonal stressors (BSSI-I/P), and 3) academic stress (BSSI-A). Means and standard deviations for race-related stress (M=58.11, SD = 24.59), psychological/interpersonal (M=44.37, SD 17.98), academic (M=31.93, SD =12.05), and total BBSI (M=134.42, SD = 45.26) indicated moderate stress on average for race-related stress, psychological/interpersonal, and academics for Black students. Neville et al. also reported race related stress was a statistically significant predictor of psychological adjustment, accounting for 26% of variance. Another finding was significant for general and race-related stress for first year students’ academic adjustment via GPA, accounting for 15% of the variance. Academic stress was a unique predictor of GPA. This link between race-related stress, psychological adjustment, and academic adjustment illustrates the magnitude of the impact of race-related stress on Black students’ health and educational experiences. This is consistent with other research documenting that Black people’s experiences of race-related stress and discrimination lead to negative physical health outcomes (Leitner et al., 2016; Mendoza-Denton et al., 2002), and mental health outcomes (Carter & Reynolds, 2011; Utsey & Hook, 2007).
Although there are strong findings documenting the impact of race-related stress on psychological well-being and academic performance (Carter et al., 2017; Cokley, 2001), it is also important to consider the role of racial identity on experiences of race-related stress. Coleman et al. (2012) examined the relation of the racial regard dimensions of racial identity, color-blind racial attitudes and race-related stress among 152 Black undergraduates on a racially diverse campus. Color-blind racial attitudes suggest that race is not an important factor in identity and should not be a significant part of how one identifies (Gushue & Constantine, 2007). The authors hypothesized that Black students in the sample will report low levels of color-blind racial attitudes. They also hypothesized that those with higher levels of colorblind racial attitudes would report higher levels of race-related stress. This hypothesis was measured using the Satisfaction with Life Scale (SWLS) (Diener et al., 1985), Positive and Negative Affect Schedule-Trait Version (PANAS) (Watson et al., 1988), Multidimensional Inventory of Black Identity (MIBI) (Sellers et al., 1997), Color-Blind Racial Attitudes scale (CoBRAS) (Neville et al., 2000), and the Index of Race-Related Stress-Brief Version (IRRS-B) (Utsey, 1999).

Results indicated higher levels of color-blind racial attitudes predicted lower levels of race-related stress, which did not support the hypothesis. The authors suggest that becoming more critically conscious would increase recognition of experiences of race-related stress. Those individuals who accept color-blind racial ideology may have a buffer against race-related stress. One limitation of this study addressed by the authors is the level of internalization of race-related stress may cause one to believe there are deficits within themselves. The unexpected findings of colorblind racial ideology predicting lower race-related stress, although significant, leaves more to be understood about which forms of race-related stress negatively impact Black students’ academic self-efficacy. It may be important to measure ones’ self-efficacy, self-esteem, other
psychological constructs or symptoms of internalized oppression which could be additive in future studies. In order to identify ways in which color-blind ideologies cause greater psychological distress when there is a lack of awareness of race-related stress, it may be helpful to add other potential constructs such as centrality and ideologies, to gain more important information about what is happening to Black students. Another limitation is the authors did not control for factors such as social desirability in the administration of self-report measures.

Due to the many destructive and deep-seated ways in which racism has a never-ending impact in Black peoples’ lives not only societally, but academically, many researchers sought to understand how Black people navigate such experiences. Coping styles, affective and behavioral responses, acculturation, and racial attitudes are some of the antecedents and consequences to race-related stress (Prelow et al., 2006; Utsey et al., 2000). Social support has also been negatively correlated to race-related stress (Jones et al., 2018). Driscoll et al. (2015) note that collective efficacy is one example of a sociocultural resource that may influence coping with racial discrimination. Driscoll et al. found that individuals’ race-related stress was associated with life satisfaction. People who experienced greater individual race-related stress reported lower satisfaction with life. Collective efficacy was also associated with life satisfaction and moderated the relationship between race-relates stress and life satisfaction. Those who experienced greater race-related stress had a high life satisfaction when collective efficacy was high.

Throughout the literature, several themes have been identified with regard to predictors and outcomes of race-related stress. The deleterious effects of racism likely exacerbate harmful, stress-related symptoms, thus, impacting various aspects of life functioning for Black people and Black students. Navigating within a predominantly White environment or space can affect the level of race-related stress for students, impacting academic performance, which can be governed by
many factors outside of race itself (Alliman-Brisset & Turner, 2010). Several predictors that influence how one handles race-related stress include: level of acculturation, racial identity, socio-economic status, geographic location, familial aspects, personal psychological coping techniques, community resources, and support (Pieterse, 2018). In the literature, racial identity has been found to shield against the psychological distress that results from race-related stress (Gerardi, 1990; Sellers & Shelton, 2003b). Due to HBCUs reinforcing cultural norms, creating racial awareness and supporting racial centrality (Cokley, 1998, 2000), research on students’ race-related stress when coming from HBCUs and entering PWI graduate programs will further understanding of the connections between educational contexts and life outcomes. More specifically, more information is needed concerning how racial identity moderates the relationship between Black graduate students’ psychological well-being and race-related stress, and further impacts academic self-efficacy in predominantly White institutions.

Psychological Well-Being of Black HBCU Students at PWIs

For Black students coming from homogenous environments, racially hostile events may not have been the forefront of experiences in the classroom. Black students who transition to PWIs may experience alienation, perceived hostility, racial discrimination, bias, and negative student-faculty interactions, which result in a lack of integration into the academic environment (Pillay, 2005; Allen, 1992). These aforementioned experiences are further related to psychological symptoms such as somatization, low self-esteem, and anxiety, depression, and isolation; thus, seeking education at a PWI may cause psychological distress and lower Black students’ ability to perform academically (Pieterse & Carter, 2010; Seller et al., 1998). More specifically, Harper and Hurtado (2007) suggested that negative psychological experiences could negatively impact academic self-concept (e.g., academic performance) for Black students attending PWIs. In
HBCUs, the psychological attacks from a racist society are often muted by the university settings. Cross et al. (1998) stated that HBCUs provide a protective and support function, while serving as a reference point to explore other Black identities and break away from a monolithic perception of Black people. The protection afforded by attending an HBCU provides a conduit and anchor to Black students who encounter racism and supports those students in navigating racist experiences (Cokley, 2002; Sellers et al., 2003b).

Scholars have suggested that Black students in PWI settings may experience psychological distress caused by racism and invalidation, restrained goals and aspirations, and increased anxieties about future encounters with White people (Franklin et al., 2006; Williams, 2014). Chavous and colleagues (2004) contributed further understanding by questioning if psychological or motivational characteristics predict achievement in PWIs and HBCUs. The researchers examined racial stereotypes about academic performance, sense of belonging on college campuses, and the impact of gender on adjustment of Black students. Findings suggest that psychologically, individuals who identify with a group that is not valued by the larger campus society may disengage from groups that place those lower expectations and value onto them (Rowley et al., 1998). Chavous and colleagues further suggested that social isolation, institutional and personal discriminatory experiences (e.g., being ignored in the classroom), and noticing interactions with White people or those of a different gender, influence Black students’ psychological well-being, especially for Black women. Due to the relationship of psychological distress and academic self-efficacy, it can be theorized that when Black students observe discrimination, it may impact psychological distress and academic self-efficacy. Black students who observe social interactions between White educators and White peers that differs from social
interaction between White educators and Black students can be detrimental to Black students’ academic self-efficacy (Kim, 2002).

Past findings from Sedlacek (1987) suggested the relevance of race-related stress for Black students. Today, 30 years later, his research still holds significance for Black students at PWIs; these students are still experiencing the same types of race-related stress from past decades in academia. Black students must navigate cultural biases and are still expected to work twice as hard as their White counterparts. Ancis et al. (2000) found that Black students report racial stereotypes negatively influenced their academic experiences. Specifically, stereotypes about Black people being intellectually inferior and recipients of affirmative action educational policy resulted in negative psychological and behavioral effects on students. Consequently, students monitored their behavior, questioning their ability and place at the university (tokenism, imposter feelings), balancing bicultural tensions, and succumbing to pressure to prove their worthiness to attend school.

Several barriers remain in assessing Black students’ experiences transitioning from HBCUs to PWIs. Studies have found that psychological distress, such as anxiety, and depression, impact Black undergraduates in PWI settings when experiencing race-related stress (Carter et al., 2017). There remains, however, many questions regarding how campus racial composition contributes to or restricts academic self-efficacy and psychological outcomes (Chavous et al., 2004; Flowers, 2002) through race-related stress. The connection between psychological functioning, such as depression, trauma, poor quality of life, and racism, has been documented throughout literature (Franklin-Jackson & Carter; Utsey & Ponteretto, 1996; Utsey et al., 2000).

Racial discrimination and bias can lead to psychological distress and negative behavioral outcomes (Harrell, 2000). Racial identity has been found to be a protective factor for psychological
functioning (Cross & Vandiver, 2001). It is important to assess race-based situations that can cause race-related stress and negatively impact psychological well-being of Black students (Carter, 2007; Pillay, 2005; Sellers et al., 2003a). Researchers have discovered that belonging to a racial group (e.g., the lens through which one experiences racism) may affect the way racial events are interpreted or the importance these events have for an individual. In particular, the role of racial centrality is a significant mitigating factor of race-related stress and psychological functioning (Hall & Carter, 2006; Sellers & Shelton, 2003b; Sellers et al., 2003b).

Carter and colleagues (2017) suggested that racial identity is important in recognizing race-related stress and racial discrimination and may buffer against psychological distress. One way to navigate and cope with these experiences is through an adoption of healthy racial identity beliefs (Sellers et al., 2006). Researchers have found racial identity and psychological functioning are connected by experiences of racial discrimination and racial centrality (Cross et al., 1998; Sellers et al., 1998). However, there are contrasting results suggesting certain racial identity attitudes can cause more psychological distress (Pillay, 2005). Psychological distress has been found to negatively affect Black students’ academic achievement. However, researchers that have examined how one’s racial attitudes contribute to those experiences of psychological distress when encountering race-related stress have had mixed results. Although conceptually, the connection between high race-related stress and psychological distress can seem to imply lower academic self-efficacy, the research presented above suggests racial identity is a key factor in making these connections. Therefore, research understanding how or if racial identity plays a role in distinguishing race-related stress and buffering against psychological distress is needed.
Racial Centrality Among Black Students at HBCUs and PWIs

Racial identity is the significance of race in the individual’s self-concept, reflected in the individual’s subjective meaning regarding what it means to be Black (Sellers et al., 1998). Using the Multidimensional Measure of Racial Identity (MMRI), Sellers conceptualizes racial identity along multiple dimensions consisting of identity salience, centrality of identity, ideology associated with the identity, and the regard in which the person holds the group associated with the identity (Sellers et al., 1988). The MMRI assumes the multiple identities that exist for any one individual are hierarchically ordered (Sellers et al., 1998b). This model suggests that not everyone holds race as a central identity, and therefore acknowledges the intersectionality of identity. Racial centrality is how a person defines themselves in relation to race and its significance in their other identities such as, gender, sexual orientation, or occupation (Okeke et al., 2009; Sellers et al., 1998b). When race is a central feature in self-defined identity, it will be the top of the identity hierarchy (e.g., I am Black, a woman, a lesbian, a student). In contrast, racial salience is the extent to which a persons’ race is a relevant part of a persons’ self-concept at specific moments in time.

Racial ideology (i.e., nationalist, minority, assimilation, and humanist) is defined as the meaning a person connects with being Black based on perceptions of the general attributes, attitudes, characteristics and values associated with Black people. Racial regard is defined as a person’s positive or negative view of their racial membership and can be used to refer to public or private regard. Private regard is an individual’s feelings of positivity or negativity of their race. Public regard is how some individuals feel others view their race in a positive or negative way.

The present study focuses on how central race is to Black HBCU and PWI undergraduates who are currently enrolled in PWIs for graduate degrees. Although Sellers and colleagues model
provides a useful framework for exploring the role of racial centrality, there are various other models of racial identity.

Noteworthy scholars who have made significant contributions to the development of racial identity models and related measures are William Cross, Janet Helms, and Thomas Parham (Sellers et al., 1998). The nigrescence model by Cross (1991) initially described the unique cultural and structural experiences associated with becoming Black in the U. S. and has since been adapted to examine other group identities. It is comprised of five stages, pre-encounter, encounter, immersion/emersion, internalization, and internalization-commitment. Parham and Helms’ (1981) model analyzes racial identity attitudes people hold towards the self, towards Blacks and towards Whites, while transitioning through three different phases of life and in four stages: late adolescence/early adulthood, midlife, and late adulthood. These four stages describe changes from anti-Black, attitude flux, to pro-Black with anti-White attitudes, to pro-Black without referenced White attitudes (Parham & Helms, 1981). Given that the primary interest of the present study is how one holds their race in connection with other intersectional identities, Sellers’ model is the one most consistent with the purpose of this study.

Scholars, such as Baldwin et al. (1990), Cross (1991), Allen (1992), Chavous and colleagues (2004), and Sellers and colleagues (2006), examined racial identity as one of the psychological and cultural variables predicting Black students’ academic performance. Their findings suggest that racial centrality can either be a protective buffer on racial hostility or predict race-related stress for Black students (Sellers et al., 2006) on White campuses. When developing academic self-efficacy in predominantly Black and predominantly White educational arenas, racial identity is an important construct to consider, since academic self-efficacy is impacted by students’ comparisons to others in their environment (Bandura, 1994; Lent et al., 2005). An important
difference for Black students at HBCUs versus PWIs is the racial composition of the university (Flowers, 2002; Negga et al., 2007). Black students have reported hostile and unwelcoming racial climates in PWI settings (Fries-Britt & Griffin, 2007). The effects of these experiences can differ for Black students based upon how central race is to them (Sellers et al., 1998b). Institutions that are counter to one’s racial identity may impact a student’s academic self-efficacy in many ways (Lent et al., 2005), warranting further investigation of the effects of racial centrality on academic self-efficacy in these institutions.

Some research suggests that factors such as racial and ethnic identity, psychological distress, and micro-aggression have a negative effect on academic self-efficacy (Choi, 2005). For example, Forrest-Banks and Cuellar (2018) found that college students with a more developed ethnic identity experience less psychological distress caused by racial micro-aggression. They also found that ethnic identity was positively associated with self-esteem and academic self-efficacy. Other scholars suggest that Black students who develop awareness of their racial identity early will have higher racial centrality (Chavous, 2000). When considering vicarious learning, same race role models can positively influence Black students learning about their racial identity, as well as navigating racist environments. In addition, with exposure to different fields and opportunities for education and career advancement, affirmations from their own communities, teachers, and parents (which is most important), Black students could have higher academic self-efficacy and greater success in life (Bynum et al., 2007; Hughes et al., 2006).

Depending on how central race is in one’s identity, it may be difficult for Black students to integrate feedback from White peers and professors that contradicts their perception of their own race (Gerardi, 1990). For example, it has been suggested that Black youth view educational achievement as a White trait and as antithetical to Blackness. Higher levels of racial centrality may
make integrating feedback from White peers and professors less difficult, whereas low racial centrality may cause lower integration of this same feedback. Racial centrality may enable Black students to understand and recognize racialized stereotypes, tropes, and bias presented in instruction and communication with White peers and professors, making Black students less impacted by the idea that they are intellectually inferior. However, if race is not central, Black students may interpret the feedback to be more about who they are as a student and impact their sense of self more negatively. Seller et al. (1998) argued that, when a person’s race is less central, different types of feedback from instructors may be connected more with the individual’s perceptions of their own ability and not discrimination as a whole towards Black people, thus internalizing negative messages and dismissing positive ones. Whereas Black students for whom race is central, take adverse feedback to mean more about discrimination and not about personal attributes, which is self-protective. This may also impact academic self-efficacy in classroom settings that feel threatening due to negative perceptions based on racial stereotypes or discrimination and bias. Wells and Sweeney (1986) found that Black students with high academic self-concepts overestimate their academic success, while students who have low academic self-concepts view negative feedback as a threat. Black students who graduate from undergraduate HBCU programs to attend PWI graduate programs have a different history of self-comparison to others, due to those in the environment also being Black, than those coming from undergraduate PWIs.

Chavous and colleagues’ (2003) longitudinal study of 606 African American youth in the 12th grade examined (a) the differences in racial identity among youth across various dimensions, as well as (b) within-group differences in school attitudes and adjustment for youth with differing patterns of racial identity beliefs. The findings suggest that high school youth who have positive
views of their race and society’s view of their race, also have more motivation and stronger positive beliefs about academic achievement, as well as stronger attachment to school (Chavous et al. 2003). When reassessed in college, those youth who scored high on race centrality and private and public regard in high school, scored low on public regard, and were grouped into the buffering/defensive category. This suggests that high racial centrality was a self-protective factor (i.e., buffering/defensive) on positive group affiliation (i.e., Black students), while being aware of racism. Students with high centrality and high private regard were more likely to complete high school and continue to seek higher education. Public regard, however, showed no relationship to educational attainment. This study also suggests that when youth go into college settings their public regard beliefs are impacted by their school and community’s views on their race. Black students’ choice to enroll in college and seek higher educational attainment can shift their attachment to education due to the perceptions of peers, teachers, and other aspects of proximal social systems. Chavous et al. focused on high school seniors, college sophomores and their college attendance; their findings suggest that racial centrality may be an important factor in the development of positive academic self-efficacy. Indeed, other research has demonstrated that racial centrality is positively associated with academic self-efficacy in Black students (e.g., Awad, 2007; Lockett & Harrell, 2003; Smalls et al., 2007).

Reid (2013) examined the correlation between academic success and levels of institutional integration, self-efficacy, and racial identity of Black undergraduate men at PWIs. A sample of 190 Black male sophomores participated by filling out the Self-Efficacy for Academic Milestones Scale (AMS; Lent et al., 1986), the Black Racial Identity Scale (RAIS-B; Helms 1990), and the Institutional Integration Scale (IIS), Pascarella & Terenzini, 1980). Findings from this study provide an in-depth analysis on Black males’ self-efficacy and integration into PWIs in the context
of racial identity. Findings indicate that self-efficacy, including academic self-efficacy, internalized racial identity attitudes, and institutional integration were positively correlated with overall academic performance and success. Using the SCCT framework, Black men have higher academic outcomes when exposed to success through vicarious experiences (i.e., role models), offering of affirming verbal judgement (verbal persuasion from mentors and teachers), and assessing and managing physiological and emotional states (responding to arousal with advising and counseling) (Reid, 2013). Black males who held immersion/emersion attitudes were more isolated and oppositional, holding skepticism towards faculty. Internalized attitudes, conceptualized as being more cognitively and emotionally unburdened, yielded increased study habits, and increased self-efficacy, leading to higher academic performance. Although this study found statistically significant relationships between Black males and academic performance and integration, it is not generalizable to Black women or Black graduate school students.

Sellers, et al. (1998) sought to examine the relationship between racial centrality and academic performance in a sample of 248 Black undergraduate students from a PWI and HBCU. Although there were no statistically significant relationships based upon school type, racial centrality was found to moderate the relationship between racial ideology and cumulative GPA. Racial centrality and racial ideology had statistically significant relationships to Black college students’ GPA. Racial centrality was positively correlated with academic performance, while nationalist and assimilation ideologies were negatively correlated. Sellers and colleagues suggested that nationalist as well as assimilation ideologies may be associated with poorer academic performance due to a heightened sensitivity toward racism resulting in feelings of racial isolation and alienation. Black students with high nationalist ideology may not buffer the negative psychological effects of the awareness of racism. To achieve a certain level of academic success,
some Black students may have to shed aspects of racial identity (i.e., nationalist ideologies) to buffer from discrimination and experience less psychological distress. Sellers et al. (1998) argued that race is central to one’s self-efficacy and moderates’ individuals’ racial attitudes and beliefs about what it means to be Black, and academic performance. One factor includes psychological aspects of facing discrimination and racially hostile environments while also trying to learn (Sellers et al., 2003a). The perceived threat of being seen as incompetent or being “talked down to” may psychologically wear on Black students’ academic self-efficacy when racial centrality is high. This type of verbal persuasion can cause Black students to doubt their abilities and have negative repercussions for academic success. Sellers et al. (2006) found that racial discrimination takes a great cognitive toll on Black students. Black students who are high in racial centrality are deciphering possible racially hostile encounters that impact not only academic self-efficacy, but also psychological well-being.

McClain et al. (2016) examined the ways in which minority status stress, imposter phenomenon, racial centrality, and ethnic identity affected mental health in Black students in a predominantly White institution. This study was conducted with 218 students (157 women, 61 men) using the Multigroup Ethnic Identity Measure Revised (Phinney, 1992), Racial Centrality Subscale (Sellers et al., 1998b), Minority Status Stress Scale (Smedley et al., 1993) and the Mental Health Inventory (Veit & Ware, 1983). The authors found that minority status stress was positively related to imposter phenomenon and racial centrality. Minority status stress and imposter phenomenon were negatively related to mental health. These findings indicate that although Black students at PWIs experience everyday struggles of being a college student, minority stress and feeling like an imposter together create a compounding negative psychological affect (McClain et al., 2016). Black students in undergraduate and graduate programs may feel an extra burden to
prove their worth, intelligence, value, and entitlement to exist in the same environment as their White peers. Ethnic identity positively predicted mental health (McClain et al., 2016), and racial centrality negatively predicted mental health. While previous research has shown racial centrality as a positive predictor of psychological well-being (Carter, 1991; Carter & Reynolds, 2011; Kambon, 1992; Pieterse & Carter, 2010) this study found that those who held race central to their identity had lower mental health scores. When holding race central, awareness of the negative stereotypes and discrimination and prejudice may account for the decline in psychological well-being (Okeke et al., 2009). These results have several implications and can suggest possible connections to academic self-efficacy. Black students in this study may be missing several aspects of positive models that resemble their race or ethnicity. Students who do not see any visible representation of themselves do not have any positive relationships with other inter-group racial members, who are experiencing high imposter feelings, may often feel excluded, isolated and displaced from their prior nourishing, and affirming environments (Kambon, 1992). These experiences may lead to Black students feeling anxiety, stress, tension, and mood instability (Murphy et al., 2012). When these experiences are weighted so heavily alongside imposter feelings and minority status stress, views of self-efficacy can be diminished.

Harper and Tuckman (2006) examined 289 African American high school students from three public high schools in a school district that was 56% African American. The purpose of their study was to investigate the relationship between Black racial identity beliefs and academic achievement of students who have a varied range of academic performance. The authors used the Multi-Dimensional Inventory of Black Identity (MIBI; Sellers et al., 1998b) and a cumulative grade point average was attained from the guidance counselors of the schools. The authors found that racial centrality decreased significantly in the senior high school students who had been
inundated with negative images of Black people, and watching their peers drop out of school after performing below expectations. They found that students who took on an alienated identity were high achievers, but they had disassociated from their Black identity. These students also accepted mainstream media’s negative portrayal of Black Americans. Those students who were high in racial centrality and held idealized identities received lower GPAs than those students who held alienated identities. Many researchers have found similar results that indicate higher levels of racial centrality result in perceiving more racial discrimination (Branscombe et al., 1999; Bernard et al., 2017; Sellers et al., 2003b) and being more likely to interpret racially ambiguous derogatory events as racism (Shelton & Sellers, 2000). Contrastingly, Wong et al. (2003) found that racial centrality buffered against discrimination and led to positive academic and socioemotional outcomes.

**Conclusion**

The research that has been discussed thus far notes the relationship between several variables such as, Black students experiences at historically Black and predominantly White institutions, academic self-efficacy, race-related stress, psychological well-being, and racial centrality. However, many of these variables have not been studied together, suggesting additional research may be beneficial for increasing understanding of the experiences of Black undergraduate students from HBCU and PWIs attending PWI graduate programs. Understanding how Black students navigate the transition from what the literature describes as a supportive and affirming environment (Schunck & Mullen, 2012) to one that has been described by research as racially hostile and discriminatory, with negative mental health outcomes (Harper, 2009) is an important addition to the literature. The literature provides strong associations between the variables proposed in this study, although the exclusion of several important constructs leave more
generalization and assumptions to be examined. There is a need to understand how self-efficacy plays a role in development of academic goals and positive achievements that increase Black students’ ability to overcome race-related barriers in order to matriculate through graduate programs. In some studies, racial centrality, has been identified as a potential buffer to the effects of race-related stress, while in others it seems to decrease ability to perform and meet expectations. Due to the inconsistent findings on racial centrality, psychological well-being and race-related stress, the present study sought to add to extant literature by drawing on social cognitive career theory and emphasizing self-efficacy as it plays a major role in achievement. The SCCT framework encompasses environmental and personal factors that contribute to academic, and eventual career success. A central tenant of SCCT is that both personal and environmental variables contribute to the development of academic self-efficacy and to successful academic performance. By exploring potential differences in the experiences of Black graduate students’ who previously attended HBCUs versus those who previously attended PWIs, this study sought to clarify relationships among race-related stress, racial centrality, psychological well-being and academic self-efficacy, with the larger goal of supporting development of self-efficacy and academic success for Black students.

**Purpose of Study**

The purpose of this study was to expand upon the works of Sellers et al. (1998a), Chavous (2000), and Pillay (2005) by examining the relationships among racial centrality, race-related stress, psychological well-being and academic self-efficacy for Black graduate students attending predominantly White graduate institutions. Moreover, the study seeks to understand similarities and differences among these relationships for Black students who previously attended undergraduate programs at HBCUs compared with Black students who previously attended
undergraduate programs at predominantly White institutions. This study also served to extend current literature on Black students’ academic self-efficacy using the Graduate Education Self Efficacy Scale (GESES), racial centrality using the racial centrality subscale of the Multidimensional Inventory of Black Identity (MIBI), race-related stress using the Index of Race Related Stress (IRRS) and psychological well-being using the Mental Health Inventory, well-being subscale (MHI). Black students are often expected to thrive in environments where systems that uphold racial bias, and discriminatory practices and policies are ignored and subjugated by white ideologies, privilege and denial. Thus, the impact of racism that causes race-related stress may lower the academic achievement of Black students in these environments. If the effects of race-related stress are not addressed in examining Black students’ academic self-efficacy, retention and matriculation rates may stay at a consistent low, and anxieties about success may continue to rise. This study adds to the literature by investigating the importance of racism as a contextual influence on Black students’ academic self-efficacy. More specifically, this study examined the following research questions:

Research question 1:

Is there a difference in racial centrality between graduate students at PWIs who previously earned undergraduate degrees at HBCUs compared to those who previously earned undergraduate degrees at PWIs?

Hypothesis 1:

1. Black graduate students who are former undergraduate HBCU students will have higher racial centrality than Black graduate students who are former undergraduate PWI students.
Research question 2:
Is there a difference in psychological well-being between graduate students at PWIs who previously earned undergraduate degrees at HBCUs compared to those who previously earned undergraduate degrees at PWIs?

Hypothesis 2:
1. Black graduate students who are former undergraduate HBCU students will have lower psychological well-being than Black graduate students who are former undergraduate PWI students.

Research question 3:
Is there a difference in race-related stress between graduate students at PWIs who previously earned undergraduate degrees at HBCUs compared to those who previously earned undergraduate degrees at PWIs?

Hypothesis 3:
1. Black graduate students who are former undergraduate HBCU students will have higher levels of race-related stress than Black graduate students who are former undergraduate PWI students.

Research question 4:
Is there a difference in academic self-efficacy between graduate students at PWIs who previously earned undergraduate degrees at HBCUs compared to those who previously earned undergraduate degrees at PWIs?
Hypothesis 4:

2. Black graduate students who are former undergraduate HBCU students will have no difference in academic self-efficacy compared to Black graduate students who are former undergraduate PWI students.

Research question 5:

Does racial centrality moderate the relationship between race-related stress and psychological well-being for Black graduate students attending PWIs?

Hypothesis 5:

1. Race-related stress will have a direct negative relationship with psychological well-being. The relationship between psychological well-being and race-related stress will be moderated by racial centrality, such that psychological well-being will be more negatively impacted by race-related stress for Black graduate students attending PWIs with high racial centrality.

Research question 6:

Does racial centrality moderate the relationship between type of undergraduate institution (HBCUs vs. PWIs) and race-related stress for Black graduate students attending PWIs?

Hypothesis 6:

1. HBCU students will experience higher levels of race-related stress than their former counterparts at PWIs. The difference in race-related stress for Black graduate students who are former undergraduate HBCU students and Black graduate students who are former PWI undergraduate students will be moderated by racial centrality, such that former HBCU students will appear
more similar to former PWI students. Racial centrality will reduce the experience of race-related stress.

Research question 7:

Does psychological well-being mediate the relationship between race-related stress and academic self-efficacy for Black graduate students attending PWIs?

Hypothesis 7:

1. Race-related stress will have a direct negative effect on psychological well-being. Psychological well-being will have a direct positive effect on academic self-efficacy. The effect of race-related stress on academic self-efficacy will be fully mediated by psychological well-being for Black graduate students attending PWIs.

Research question 8:

What is the nature of the multivariate relationships among race-related stress, racial centrality, psychological wellbeing, and academic self-efficacy for Black graduate students attending PWIs? Does the nature of these relationships differ for former HBCU students as compared to former PWI students? Research suggests that Black students from HBCU undergraduate settings have different experiences than PWI undergraduate students. Due to the lack of information regarding the transition from an HBCU to a PWI, no hypothesis is offered, instead this question seeks to understand what those differences are. Existing literature suggests that the experiences of Black students attending HBUCs are different from the experiences of Black students attending PWIs. This suggests that the nature of the multivariate relationships among race-related stress, racial centrality, psychological well-being and academic self-efficacy will differ for former HBCU students as compared to former PWI students.
CHAPTER 3

METHOD

The purpose of this study was to examine the relationships among racial centrality, race-related stress, psychological distress and academic self-efficacy among Black graduates of HBCU and PWI undergraduate programs, currently attending PWI graduate programs. This study sought to find differences among racial centrality, psychological well-being, race related-stress, and academic self-efficacy between Black graduate students at PWIs who previously earned undergraduate degrees at HBCUs compared to Black students with undergraduate degrees from PWIs. It also sought to explore moderation effects of racial centrality on relationships between race-related stress, psychological well-being, and undergraduate institution type, as well as the mediating effect of psychological well-being on the relationship between race-related stress and academic self-efficacy for Black graduate students attending PWIs. Finally, the nature of multivariate relationships among all study variables, race-related stress, racial centrality, psychological well-being and academic self-efficacy, were explored by institution type for Black graduate students attending PWIs. This chapter reports the participant data collected, the measures used, and ends with procedures and analysis completed in this study.

Participants

The initial number of participants in this study was 413, but the final sample size was reduced to 200. Several participants were removed due to being current HBCU students, identifying as non-Black, or not meeting criteria by being US citizens. Table 1 reports the descriptive statistics conducted on the categorical measures included in this study. First, with regard to race/ethnicity, 93% of this sample was Black/African American, with 5% biracial/multiracial, and close to 3% providing a response of "other." Those identifying as “other”
were observed to also attend HBCU undergraduate institutions and because the questions were specific regarding race/ethnicity, it may have excluded participants who may identify as African or apart of the diaspora (e.g., Caribbean, Afro-Latina). Men represented 30% (n=60) of the sample, women 69.5% (n=139), and non-binary .5% (n=1). Approximately 15% (n=30) identified as between the ages of 18-24, 58% (n=117) between the ages 25-34, 15% (n=30) between the ages of 35-44, 6.5% (n=13), between the ages of 45-54, and 5% (n=10) older than 54. For marital status, 62% identified as single, 29% identified as married or partnered, .5% widowed, 5.5% divorced, and 1% separated, with 2 missing data for this section. With respect to graduate degree level, 43% of participants reported being enrolled in a master’s program, and 53% reported being enrolled in a doctoral program, with 3.5% reporting other, and 1 person missing data for this question.

Approximately half of the participants (49%) indicated that they were a first-generation college student; most of the remaining participants (50%) indicated they were not first-generation college students, with 1 person not responding. The vast majority of participants (90%) reported religious affiliation. Income levels were reported as 31% at 0-$25, 999, 30% at $26,000 - $51,000, % at $52,000 - $74, 999, and 24% more than $75,000. Regarding the type of institution attended, PWIs accounted for 63% of participants (45% public, 18% private). HBCUs accounted for 37% of the participants (22% Public, 15% Private).

Table 1
Descriptive Statistics: Demographic Variables

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<td>Private Historically Black Colleges and Universities (HBCU)</td>
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<td>15.2</td>
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</table>

*Note: Two participants did not report type of undergraduate institution resulting in percentages for undergraduate instruction totaling 99% instead of 100%. Year in grad program is missing 23 participants, first generation is missing one participant, resulting in percentages not equaling 100%.*

**Measures**

**Demographic Questionnaire**

Participants completed a demographic questionnaire created by the researcher asking 14 questions (Appendix B). Questions included race and ethnicity, age, gender, graduate program location and type, length of time in graduate program, and type of undergraduate institution.
attended (HBCU or PWI). Geographic location and name of undergraduate institution attended field of study and graduate degree level were included. Social economic status (highest level of income in household prior to college), highest education level of parents or guardian, geographic location (born or raised) were also included. Questions were asked to assess if participants are first generation college students.

**Multidimensional Inventory of Black Identity**

Participants were administered the Racial Centrality Scale (RCS) of the Multidimensional Inventory of Black Identity (MIBI; Sellers et al., 1998b, Appendix D). The full-scale measures three stable constructs, centrality, ideology, and regard. For the purpose of this study only the racial centrality scale (RCS) was used. The RCS is a four-item measure, rated on a 7-point Likert type scale ranging from 1 (not at all) to 7 (very much). Participants were asked the extent to which they agree or disagree with such items as “I have a strong attachment to other Black people” and “Being Black is an important reflection of who I am”. Participants’ scores were averaged across the four-items, with higher scores indicating higher levels of racial centrality.

The MIBI was developed on 279 self-identified African American undergraduate students from three predominantly White institutions (n = 164) and four historically Black colleges and universities (n = 112). Maximum Likelihood factor analysis found strong support for a single-factor structure for the racial centrality subscale (Cokley & Helm, 2001; Sellers, Rowley et al., 1997). Participant ages ranged from 18 to 46 years old with 38% men and 62% women. The family income consisted of 38% reporting $40,000 or less, 22% reported between $40,000 and $60,000 and 13% reported between $60,000 and $80,000, with the last 35% reporting over $80,000. Internal consistency (Cronbach’s α) for the RCS of the MIBI is reported at .74 (Seller et al., 1998; Okeke et al., 2010). For this study internal consistency (Cronbach’s a) was reported at .85.
Pearson’s correlations were used to explore relationships between interracial contact and racial centrality (Sellers et al., 1998). There was a positive correlation between racial centrality and contact with other Blacks ($r = .39$, $p < .01$). Racial centrality is also related to race-related activities such as inter- and intra-racial social contact, along with number of students enrolled in Black studies courses (Cokley & Helm, 2001). There was a negative correlation between racial centrality and contact with whites ($r = -.41$, $p < .01$). Vandiver et al., (2001) further reported concurrent validity through positive correlations with the African Self-Consciousness Scale.

Within the larger MIBI, racial identity constructs should correlate with each other in predicted patterns (Cokley & Helm, 2001). As expected, individuals with high centrality also endorsed nationalist attitudes ($r = .25$) and hold a positive private regard for African Americans ($r = .42$). Individuals high in racial centrality were also less likely to endorse assimilation ($r = -.23$) and humanist attitudes ($r = -.25$) (Cokley & Helm, 2001).

**Graduate Education Self-Efficacy Scale**

Participants were administered the Graduate Education Self-Efficacy Scale (GESES; Williams, 2005; Tate et al., 2015, appendix E), a 50-item self-report measure grouped into three subscales: 15 items measuring academic self-efficacy (e.g., confidence in ability to graduate from your current institution with high grades), 20 items measuring research self-efficacy (e.g., confidence in ability to identify areas of needed research based on reading the literature), and 15 items measuring social self-efficacy (e.g., confidence in ability to be involved in group activities with students). Participants rated items on a 10-point-Likert-type scale that ranges from 1 (*Not at all confident*) to 10 (* Completely confident*). The three subscales were added together for a total sum of the scales. Higher total scores indicate higher efficacy.
The GESES was originally designed for undergraduate students transitioning to graduate programs. Williams suggested to rephrase some of the questions to fit current graduate students (personal communication, May 28, 2019). For the purpose of this study the questions were revised to fit graduate students’ experiences based on research completed by VanderGheynst et al., (2018) and Yuma et al., (2016). One item that was changed was question 4 from asking about graduate admission to asking about examination to complete degrees and receive licensure. Another question that was changed to fit this sample 9 that asked about choosing a graduate school to choosing and career path. Question 10 was also changed to from chose a graduate major to choose a career path that will fit your academic aspirations.

Williams (2005) developed the GESES on 624 participants. In this sample, 48% identified as African American, 22% as White, 17% as Hispanic, 6% as Asian, 2% as Native American, and 5% as other. Within the participants, 71% identified as women, 71% identified between the ages of 18-22, and 17% between 23-27. In this sample, 40% identify as social sciences/education majors, 17% identified as natural sciences major, and 66% identified as seniors.

Evidence supporting this scale for graduate students was provided by Yuma et al. (2017) in the examination of 125 doctoral students, and VanderGheynst et al. (2018) who surveyed 156 first-year graduate students. Williams (2005) reported internal consistency using Cronbach’s alpha, ranging from .89 for the academic self-efficacy scale, .96 for the research self-efficacy scale, and .92 for the social self-efficacy scale. For this current study Cronbach’s alpha was .93 for academic self-efficacy, .96 for research self-efficacy, .93 for social self-efficacy, and .97 for the full scale. Test-retest reliability (Tate et al., 2015) has been reported at .93 for academic self-efficacy, .98 for research self-efficacy, and .96 for social self-efficacy.
Mental Health Inventory

Participants were administered the Mental Health Inventory (MHI; Veit & Ware, 1983, appendix F), a 38-item self-report measure of psychological well-being and distress for the general population. The MHI has three scale formats. The first scale format includes five factors (anxiety, depression, loss of behavioral/emotional control, general positive affect, and emotional ties). The second scale format has two factors: psychological distress (PD), which is the combination of anxiety, depression, and loss of behavioral/emotional control; and psychological well-being (PWB), which consists of general positive affect and emotional ties. The third scale format is the Mental Health Index, or global score. For the purposes of this study, the Mental Health Index score was used. The global score measures overall psychological distress and psychological well-being. Participants rated items on a 6-point Likert-type scale (1 = all of the time to 6 = none of the time). The inventory yields an overall score ranging from 38 to 226 with scores of 75 and below meaning less mental well-being (Pillay, 2005). Lower scores on the mental health index indicated psychological distress or negative states of mental health during the past month. Higher scores indicated psychological well-being or positive states of mental health during the past month (Whittaker & Neville, 2010).

Veit and Ware (1983) developed the MHI on a sample of 5,089 people in the Seattle, Washington; Dayton, Ohio; Fitchburg/Franklin County, Massachusetts; and Charleston/Georgetown County, South Carolina. In this sample, 46% were male and 15% were nonwhite, with an average age range of 13 to 69. These participants had completed an average of 12.4 years in school and family income ranged from $0 to $45,454. These participants resided in Washington, Ohio, Massachusetts, and South Carolina. Veit and Ware (1983) reported internal consistency estimates, using Cronbach’s alpha, ranging from .96 for the Mental Health Index to
.94 for Psychological distress and .92 for Psychological well-being among White and Black samples. For this study internal consistency (Cronbach’s a) was reported at .91 for psychological well-being, .90 for psychological distress, and .72 for the full scale. The alpha coefficient estimate for the total score reported by Whittaker and Neville (2010) was .87. Test-retest reliability coefficients for psychological distress and psychological well-being subscales were .85 to .93, respectively (Franklin-Jackson & Carter, 2007) indicating a substantial proportion of the reliable variance in the scales is stable over a 1-year interval. Convergent validity was supported by positive correlations with perceived stress and race-related stress (Pieterse & Carter, 2010). The smallest difference in magnitude between factor loading on the physical and mental factors was .30, indicating good discriminant validity. The MHI is also positively correlated to variables such as social support and life satisfaction, and negatively correlated to stressful life events variables (Ware et al., 1984).

**Index of Race-Related Stress–Brief Version**

Participants were administered the Index of Race Related Stress – Brief Version (IRRS – B; Utsey, 1999; appendix G), a 22-item multidimensional measure of race-related stress experienced by African Americans. The 22-items comprise three subscales measuring cultural racism (10 items), institutional racism (6 items), and individual racism (6 items), and a global racism index. The Individual Racism subscale assessed interpersonal experiences of racism (e.g., salesclerk did not say thank you or show courtesy and respect when you shopped at White owned businesses). The Institutional Racism subscale assessed experiences of racism related to institutional practices and policies (e.g., you were the victim of a crime and the police treated you as if you should just accept it as part of being Black). The Cultural Racism subscale assessed experiences of racism related to the denigration of Black culture (e.g., you notice that crimes
committed by White people tend to be romanticized, whereas the same crime committed by a Black person is portrayed as savagery, and Black person who committed it as an animal). Participants rated items on the IRRS-B using a 5-point Likert-type scale with responses ranging from 0 (This never happened to me) to 4 (this happened and I was very upset). Subscale scores are obtained by adding the subscale items. Global racism index is the sum of all subscale items. In this study the global racism scale was utilized. Higher global scores indicate higher overall race-related stress for participants’ experiences with race-related stress, low scores on the global scale indicate lower overall race-related stress.

Utsey (1999) developed the IRRS-B on 264 participants. Of those participants 239 were African American and 25 were White. The White participants were used as a group comparison study and not included in assessment of the reliability and validity of the scale. There were 138 women and 78 men in the study, with ages ranging from 16 to 91. Participants reported a mean income of $23,000 and held an average of 13.78 years of education. Internal consistency was demonstrated with Cronbach’s alpha of .91 for the global racism, .84 for individual racism, .87 for cultural racism, and .72 for institutional racism scales (Utsey, 1999). In another study (Franklin-Jackson & Carter, 2007) internal consistency was also demonstrated with very similar Cronbach’s alphas of .91 for global racism, .84 for cultural racism, and .82 for both institutional and individual racism. Reynolds and Todman (2015) reported good internal consistency for the subscales of the IRRS-B with Cronbach’s alphas ranging from .84 to .92. For this study, internal consistency (Cronbach’s a) was reported at .58 for institutional, .83 for cultural, .69 for individual, and .84 for global scale. The subscales were further positively correlated with the self and group subscales of the Racism and Life Experience Scale – Revised (Harrell, 1995), providing initial evidence of
construct and convergent validity. Further, convergent validity of the IRRS-B has been supported in several studies (Bentley-Edwards & Chapman-Hilliard, 2015; Cole et al., 2012).

**Procedures**

This student investigator obtained permission from the university Human Subjects Institutional Review Board (HSIRB) and began recruitment of participants. This researcher sent an email to ask participants to complete the study via listservs and professional organizations (Appendix A; e.g., Black Doctoral Network, and Association of Black Psychologists) as well as Facebook groups dedicated to Black HBCU graduates, and Black doctoral students groups for recruitment. Snowballing sampling was used in which participants sent the email to other Black graduate students. The number of needed participants was estimated by G*Power software selecting a linear multiple regression model using a small to medium effect size of .10 and .15, respectively. This study recruited more than the suggested 140 to 185 Black graduate students who previously attended an HBCU or a PWI undergraduate institution and are currently enrolled as a graduate student at a PWI. Participants were asked to identify if they attended an HBCU undergraduate program and if they are currently in a masters or doctoral program at a PWI. In previous studies, sample sizes vary from 137 using the MHI (Yegan, 2005) to 136 using to the GESES (Tate et al., 2015). The intent to have a balanced number of participants who formerly attended HBCUs and those who formerly attended PWIs was not met as there were more PWI than HBCU students. This study did have participants from both the masters and doctoral level. The gender of the participants was 30% male and 70% female, which is consistent with the U.S. Department of Education (2016) data on graduate programs, broken down by race. There was a range of participants age from 20-65 years old, also consistent with U.S. Department of Education
Participants’ field of study varied for both undergraduate and graduate programs covering a broad array of programs.

Recruitment emails were sent out three times to participants. Originally, recruitment emails contained a web-link to the consent page and survey. However, after several fraudulent attempts to gain compensation for participation, this researcher sent out an email requiring participants to email from their registered student email addresses in order to receive the link to participate in the survey. After participant consent was obtained, a demographic questionnaire was completed. Following completion of the demographic questionnaire, the remaining measures were presented to participants in randomized order: Multidimensional Inventory of Black Identity, Graduate Education Self-Efficacy Scale, Mental Health Inventory, and the Index of Race-Related Stress; another unused measure of Race-Related Stress was also included in random order. Participants took between approximately 30 – 60 minutes to complete the survey. A monetary incentive of $10 was provided to all participants who completed the survey.

Analysis

Multiple statistical procedures were used to analyze the data related to the research questions and hypothesis. ANOVAs were conducted to examine research questions one through four, that ask about the differences between racial centrality, psychological well-being, race-related stress, and academic self-efficacy for graduate students at PWIs who previously earned undergraduate degrees at HBCUs compared to those at PWIs. Regression analyses were conducted to answer research question five, six and seven, regarding moderation and mediation of the relationships among racial centrality, race-related distress and psychological well-being. Canonical correlation was used to analyze research question eight on the relationships among race-
related stress, racial centrality, psychological well-being and academic self-efficacy for graduate students at PWIs who previously earned undergraduate degrees at HBCUs or PWIs.
CHAPTER 4

RESULTS

This chapter presents the results of the analyses conducted for this study. First preliminary analyses to check for outliers, assumptions of normality, and linear relationships are reported. Then, ANOVA, regression and canonical correlations are presented for each of the research questions.

Preliminary Analyses

Initially, descriptive statistics were conducted on these data, which consisted of frequency tables incorporating the categorical measures, along with measures of central tendency and variability conducted on the continuous measures included in this study. Measures of central tendency consisted of the mean and median, with measures of variability consisting of the standard deviation, range, minimum and maximum scores, skewness and kurtosis. Standard deviations were found to be small to moderate in relation to mean values as well as the ranges associated with these measures, indicating a small to moderate degree of variation in study variables. Minimum and maximum values, as well as the associated ranges, were found to vary widely across these five measures. Prior to conducting inferential statistical analyses, assumptions of normality and linear relationships were examined based on skewness, kurtosis, frequency distributions, QQ plots and bivariate correlations. Inferential statistics conducted to test study hypotheses consisted of ANOVA, regression, and canonical correlations.

The variables under investigation in this study were racial centrality, race-related stress, psychological well-being, graduate student self-efficacy, and undergraduate degree type for current Black PWI graduate students. Prior to the main analysis, assumptions of normality were tested to assess for potential violations (Osborne & Waters, 2002) and outliers. Preliminary
analyses showed the assumption of normality was not met for the MHI, which demonstrated a large positive value for kurtosis. Further review of the MHI data identified 5 univariate outliers which were removed from the sample. Once outliers were removed, normality was met. The final sample size was 200 participants.

Descriptive Statistics

Table 2 presents the descriptive statistics conducted on the continuous measures included in this study. Mean and median values were very similar in all cases, suggesting the lack of skewness. Due to these similarities, only the means will be focused upon here.

The Mental Health Inventory (MHI, Veit and Ware, 1983) is a 38-item scale developed to measure psychological well-being. Participants rate items on a 6-point Likert-type scale (1 = all of the time to 6 = none of the time). The inventory yields a global score ranging from 38 to 226 with scores of 75 and below indicating less mental well-being (Pillay, 2005). Participants were found to have a mean MHI score of 146.02 (SD = 15.03), meaning on average students reported moderately strong psychological well-being. An item level mean score of 3.84 indicates that students experienced well-being, “a good bit of time” in the past month. Former HBCU students reported a mean of 146.40 (SD = 12.92) for psychological well-being, with an item level mean of 3.85 indicating moderate levels of well-being. Former undergraduate PWI students reported a mean of 145.66 (SD = 12.21) for psychological well-being, with item level mean of 3.83 also indicating moderate levels of well-being.

The Index of Race-Related Stress - Brief Version (IRRS-B, Utsey, 1999) is a 22-item measure of race-related stress experienced by Black people. This scale has three subscales, Institutional Racism, Individual Racism, and Cultural Racism; it also yields a Global Racism score. This study only used the global score. For the IRRS-B global racism scores range from 1 to 88
with higher scores indicating greater race-related stress. Participants rate items on the IRRS-B using a 5-point Likert-type scale with responses ranging from 0 (This never happened to me) to 4 (this happened and I was very upset). The global race-related stress score for the overall sample had a mean of 54.73 (SD = 15.26), with an item level mean of 2.48 indicating moderate levels of race-related stress. The overall sample mean for Cultural race-related stress 29.32 (SD = 8.16), with item level mean of 2.93 indicating moderate levels of cultural race-related stress. The overall sample mean for Institutional race-related stress was 13.18 (SD = 5.37), with an item level mean of 2.19 indicating moderate levels of institutional race-related stress. The overall sample mean for Individual race-related stress was 12.24 (SD = 5.37), with an item level mean of 2.04 indicating moderate levels of individual race-related stress. These scores represent more moderate “I was slightly upset” by experiences of race related stress for Black students across institution type.

The mean global race-related stress score was 53.74 (SD = 13.93) for former HBCU undergraduate students, with an item level mean of 2.44 indicating moderate levels of distress. Former HBCU undergraduate students’ Cultural race-related stress mean was 29.45 (SD = 8.05), with item level mean of 2.94 indicating moderate levels of distress. Institutional race-related stress mean for former HBCU students was 12.25 (SD = 5.13), with an item level mean of 2.04, indicating moderate level of distress. Individual race-related stress mean for former HBCU students was 12.04 (SD = 5.15), with an item level mean of 2.01 indicating moderate levels of distress. These scores represent more moderate “I was slightly upset” by experiences of race related stress for Black former HBCU undergraduate students.

The mean global race-related stress score was 55.11 (SD = 15.98) for former PWI undergraduate students, with an item level mean of 2.51 indicating moderate levels. Cultural race-related stress mean for former PWI students was 29.19 (SD = 8.25), with item level mean of 2.92
indicating moderate levels of distress. Former PWI undergraduate students institutional race-related stress mean was 13.67 (SD = 5.4), with item level mean of 2.27 indicating moderate levels of distress. Individual race-related stress mean for former PWI undergraduates was reported at 12.24 (SD = 5.49), with an item level mean of 2.04 indicating moderate levels of distress. These scores represent more moderate “I was slightly upset” by experiences of race related stress for Black former PWI undergraduate students

Graduate Education Self-Efficacy Scale (GESES; Williams, 2005; Tate et al., 2015) is a 50-item self-report measure grouped into three subscales: academic self-efficacy, research self-efficacy and social self-efficacy. The three subscales are added together for a total sum of the scales, called the global score. Participants rate items on a 10-point-Likert-type scale that ranges from 1 (Not at all confident) to 10 (Completely confident). Graduate self-efficacy scores range from 1 to 500 with higher levels indicating greater self-efficacy. The full sample was found to have a total GESES mean of 379.06, with item level mean of 7.58 indicating high level of academic, research, and social self-efficacy. GESES academic self-efficacy subscale mean was 118.08 (SD = 22.84), with an item level mean of 7.87 indicating high level of academic self-efficacy. GESES research self-efficacy subscale mean was 154.61 (SD = 32.46), with an item level mean of 7.73 indicating high level of research self-efficacy. GESES social self-efficacy subscale mean was 106.37 (SD = 27.79), with an item level mean of 7.09 indicating high level of social self-efficacy. Black students in the total sample across institution type indicate high levels of belief and confidence that they can successfully perform tasks in order to complete their academic programs.

Former HBCU students GESES total mean was 382.19 (SD 70.57) with an item level mean of 7.64 indicating high level of academic, research, and social self-efficacy. HBCU GESES academic self-efficacy subscale mean was 118.29 (SD = 70.57), with an item level mean of 7.89
indicating high level of academic self-efficacy. HBCU GESES research self-efficacy subscale mean was 156.63 (SD = 30.40), with an item level mean of 7.83 indicating high level of research self-efficacy. HBCU GESES social self-efficacy subscale mean was 107.27 (SD = 29.09), with an item level mean of 7.15 indicating high level of social self-efficacy. Black former HBCU students report high levels of belief and confidence that they can successfully perform tasks in order to complete their academic programs.

Former PWI students GESES total mean was 377.29 (SD 76.25) with an item level mean of 7.54 indicating high level of academic, research, and social self-efficacy. PWI students GESES mean for academic self-efficacy subscale was 117.81 (SD = 23.49), with an item level mean of 7.85 indicating high level of academic self-efficacy. PWI GESES research self-efficacy subscale mean was 153.54 (SD = 33.92), with an item level mean of 7.67 indicating high level of research self-efficacy. PWI GESES social self-efficacy subscale mean was 105.94 (SD = 27.32) with an item level mean of 7.06 indicating high level of social self-efficacy. Black former PWI students report high levels of belief and confidence that they can successfully perform tasks in order to complete their academic programs.

Racial centrality is a four-item subscale on the Multidimensional Inventory of Black Identity (MIBI; Sellers, 1998). Participants rate items on a 7-point Likert type scale ranging from 1 (not at all) to 7 (very much). Racial centrality scores are calculated by averaging responses across the four-items, with higher scores indicating higher levels of racial centrality. The four-item measure of racial centrality was found to have a mean of 6.01 (SD 1.02) for the total sample, 6.32 (SD .78) for the former HBCU students, and 5.83 (SD 1.10) for the PWI students. These means can be characterized as somewhat agreeing (5) to agreeing (6) with statements concerning racial centrality.
Table 2.  
Descriptive Statistics: Continuous Measures (N = 200)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
<th>Range</th>
<th>Min</th>
<th>Max</th>
<th>Skew</th>
<th>Kurt</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>MHI</td>
<td>146.02</td>
<td>146.00</td>
<td>15.03</td>
<td>128.00</td>
<td>70.00</td>
<td>198.00</td>
<td>-0.44</td>
<td>3.19</td>
<td>0.72</td>
</tr>
<tr>
<td>Psychological Well-Being</td>
<td>44.69</td>
<td>43.00</td>
<td>12.81</td>
<td>63.00</td>
<td>14.00</td>
<td>77.00</td>
<td>-0.01</td>
<td>-0.57</td>
<td>0.92</td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>101.34</td>
<td>101.50</td>
<td>17.86</td>
<td>93.00</td>
<td>43.00</td>
<td>136.00</td>
<td>-0.27</td>
<td>-0.23</td>
<td>0.90</td>
</tr>
<tr>
<td>Race-Related Stress</td>
<td>54.73</td>
<td>54.20</td>
<td>15.26</td>
<td>78.20</td>
<td>9.80</td>
<td>88.00</td>
<td>-0.12</td>
<td>-0.37</td>
<td>0.84</td>
</tr>
<tr>
<td>Institutional</td>
<td>13.18</td>
<td>13.20</td>
<td>5.37</td>
<td>24.00</td>
<td>0.00</td>
<td>24.00</td>
<td>0.02</td>
<td>-0.30</td>
<td>0.59</td>
</tr>
<tr>
<td>Cultural</td>
<td>29.32</td>
<td>31.25</td>
<td>8.16</td>
<td>36.25</td>
<td>3.75</td>
<td>40.00</td>
<td>-0.65</td>
<td>-0.34</td>
<td>0.84</td>
</tr>
<tr>
<td>Individual</td>
<td>12.24</td>
<td>12.00</td>
<td>5.37</td>
<td>24.00</td>
<td>0.00</td>
<td>24.00</td>
<td>0.06</td>
<td>-0.39</td>
<td>0.67</td>
</tr>
<tr>
<td>Graduate Self-Efficacy</td>
<td>379.06</td>
<td>385.00</td>
<td>73.73</td>
<td>341.00</td>
<td>159.0</td>
<td>500.00</td>
<td>-0.45</td>
<td>-0.24</td>
<td>0.98</td>
</tr>
<tr>
<td>Academic</td>
<td>118.09</td>
<td>123.00</td>
<td>22.84</td>
<td>100.00</td>
<td>50.00</td>
<td>150.00</td>
<td>-0.69</td>
<td>-0.17</td>
<td>0.93</td>
</tr>
<tr>
<td>Research</td>
<td>154.61</td>
<td>158.00</td>
<td>32.47</td>
<td>137.00</td>
<td>63.00</td>
<td>200.00</td>
<td>-0.53</td>
<td>-0.31</td>
<td>0.97</td>
</tr>
<tr>
<td>Social</td>
<td>106.37</td>
<td>109.00</td>
<td>27.80</td>
<td>141.00</td>
<td>9.00</td>
<td>150.00</td>
<td>-0.65</td>
<td>0.23</td>
<td>0.94</td>
</tr>
<tr>
<td>Centrality (MIBI)</td>
<td>6.01</td>
<td>6.25</td>
<td>1.02</td>
<td>4.50</td>
<td>2.50</td>
<td>7.00</td>
<td>-0.97</td>
<td>0.12</td>
<td>0.86</td>
</tr>
</tbody>
</table>

The relationships between the variables mental health (MHI), race related stress (RRS), racial centrality (Centrality), and graduate student self-efficacy were investigated using Pearson’s product-moment correlation coefficients. Results show a statistically significant relationship between race related stress and racial centrality, and self-efficacy and racial centrality. Race-related stress and racial centrality have a medium positive correlation ($r=.34$, $n=200$) meaning high levels of race-related stress are associated with high levels of racial centrality. Racial Centrality and graduate self-efficacy have a small positive correlation ($r=.27$, $n=199$) meaning high racial centrality is associated with high self-efficacy.
Table 3.
Correlations (N = 200)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. MHI</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Race-Related Stress</td>
<td>-0.08</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Graduate Self-Efficacy</td>
<td>0.05</td>
<td>-0.06</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>4. Centrality (MIBI)</td>
<td>0.10</td>
<td>0.34**</td>
<td>0.27**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

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

Primary Analyses

To answer research questions 1-4 ANOVAs were conducted to examine differences among the experience of Black graduate PWI students who previously attended either an HBCU or PWI undergraduate institution. These questions explore racial centrality, race-related stress, psychological well-being and academic self-efficacy. To answer research questions 5-7 hierarchical multiple regression analyses were conducted. These questions explore the relationships among the variables race-related stress, racial centrality, psychological well-being, academic self-efficacy and institution type, potential moderation effects of racial centrality, and the potential mediation effect of psychological well-being. Finally, for research question 8, exploring the relationship among all the variables together, a canonical correlation was conducted. This question explored racial centrality, race-related stress, psychological well-being and institution type, simultaneously.

Research question 1:

Is there a difference in racial centrality between Black graduate students at PWIs who previously earned undergraduate degrees at HBCUs compared to those who previously earned undergraduate degrees at PWIs?
Hypothesis 1:

1. Black graduate students who are former undergraduate HBCU students will have higher racial centrality than Black graduate students who are former undergraduate PWI students.

A one-way ANOVA was conducted examining the mean difference in racial centrality by type of undergraduate institution. A mean of 5.83 ($SD = 1.11$) was found among the 124 PWI cases, with a mean of 6.32 ($SD = 1.02$) found among the 74 HBCU cases. Levene's test for the equality of variances achieved statistical significance, indicating violation of the assumption of the equality of variances, $F = 11.15, p < .001$. Thus, a Welch's $F (1, 189.93) = 13.17, p < .000$ test was conducted and was found to be statistically significant. These results indicate that Black students reported higher levels of racial centrality in PWI graduate programs when coming from an HBCU, supporting the hypothesis.

Research question 2:

Is there a difference in psychological well-being between graduate students at PWIs who previously earned undergraduate degrees at HBCUs compared to those who previously earned undergraduate degrees at PWIs?

Hypothesis 2:

2. Black graduate students who are former undergraduate HBCU students will have lower psychological well-being than Black graduate students who are former undergraduate PWI students.

A one-way ANOVA was conducted examining the mean difference in psychological well-being by institution type. A mean of 145.66 ($SD = 16.22$) was found among the 124 PWI cases, with a mean of 146.41 ($SD = 12.92$) found among the 74 HBCU cases. Levene's test for equality
of variances was not statistically significant, $F = 1.00, p = .324$, indicating the assumptions of equal variances was met. The ANOVA exploring the difference in psychological well-being for former HBCU students compared to former PWI students failed to reach statistical significance, $F(1, 196) = .113, p = .737$. This result indicates no difference in psychological well-being of former HBCU students and former PWI students and fails to indicate support for the second hypothesis. The results indicate that Black students, overall, have a moderate level of psychological well-being while in graduate PWI programs.

Research question 3:

Is there a difference in race-related stress between graduate students at PWIs who previously earned undergraduate degrees at HBCUs compared to those who previously earned undergraduate degrees at PWIs?

Hypothesis 3:

3. Black graduate students who are former undergraduate HBCU students will have higher levels of race-related stress than Black graduate students who are former undergraduate PWI students

A one-way ANOVA was conducted examining the mean difference in race-related stress by type of undergraduate institution. A mean of 55.11 ($SD = 15.98$) was found among the 124 PWI cases, with a mean of 53.74 ($SD = 13.93$) found among the remaining 74 HBCU cases. Levene's test for the equality of variances was not statistically significant, $F(1, 196) = 2.45, p > .119$, indicating that assumptions of equality of variances was met. The one-way ANOVA failed to achieve statistical significance, $F(1, 196) = .37, p > .542$. This result indicates no difference in race-related stress of former HBCU students and former PWI students and fails to indicate support for the third hypothesis. The results indicate that Black students experience a moderate level of
race-related stress at PWI graduate institutions across the full sample, with no difference between undergraduate institution type.

Research question 4:

Is there a difference in academic self-efficacy between graduate students at PWIs who previously earned undergraduate degrees at HBCUs compared to those who previously earned undergraduate degrees at PWIs?

Hypothesis 4:

1. Black graduate students who are former undergraduate HBCU students will have no difference in academic self-efficacy compared to Black graduate students who are former undergraduate PWI students.

A one-way ANOVA was conducted to examine the mean difference in academic self-efficacy by undergraduate institution type. A mean of 377.29 (SD = 76.25) was found among the 124 PWI cases, with a mean of 382.19 (SD = 70.57) found among the remaining 73 HBCU cases. Levene's test for the equality of variances was not statistically significant, $F(1, 195) = 2.45, p > .119$, indicating the assumption of equal variances was met. The ANOVA failed to achieve statistical significance, $F(1, 195) = .200, p = .655$. This result indicates that there is no difference in academic self-efficacy of former HBCU students and former PWI students and supports the fourth hypothesis. The means indicate that Black students have high levels of academic self-efficacy at PWIs independent of undergraduate institution type.

Research question 5:

Does racial centrality moderate the relationship between race-related stress and psychological well-being for Black graduate students attending PWIs?
Hypothesis 5:

1. Race-related stress will have a direct negative relationship with psychological well-being. The relationship between psychological well-being and race-related stress will be moderated by racial centrality, such that psychological well-being will be more negatively impacted by race-related stress for Black graduate students attending PWIs with high racial centrality.

This question was examined using model one in PROCESS (Hayes, 2014) to examine the moderation effect of racial centrality between race-related stress and psychological well-being for Black graduate students attending PWIs. It was hypothesized that race related stress would have a direct negative relationship with psychological well-being, and that the relationship between race-related stress and psychological well-being would be moderated by racial centrality with psychological well-being more negatively impacted when high racial centrality combines with high race-related stress. To test this hypothesis a hierarchal multiple regression analysis was conducted. Psychological well-being (PWBtotal; Y) was entered in as the outcome variable, race-related stress (X) was the predictor variable, and centrality (W) was the moderator variable. Specifically, this model is looking at the interaction of the variables in which one variable predicts the outcome of another via a moderating variable. A picture of this model is provided below (Figure 1). The results for regression analysis are presented in table 5.
The overall model was not statistically significant $F(3, 196) = 2.10, p = .101, R^2 = .03$. The effects of race-related stress, $b = -0.061 \, t(196) = -1.29, p = .197$, and racial centrality, $b = -1.82 \, t(196) = -0.453, p = .651$, were not statistically significant. The results indicate there was not a negative direct relationship between race-related stress and psychological well-being. The results suggest that racial centrality does not moderate the relationship between race-related stress and psychological well-being for Black graduate students attending PWIs and fails to support hypothesis 5.

Table 5.
Regression Coefficients Psychological Well-Being (Model 1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE</th>
<th>$t$</th>
<th>$p$</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Psychological Well-Being (PWBtotal)</td>
</tr>
<tr>
<td>Constant</td>
<td>163.87</td>
<td>23.93</td>
<td>6.85</td>
<td>0.00</td>
<td>[116.68, 211.07]</td>
</tr>
<tr>
<td>RRSrec_F</td>
<td>-0.61</td>
<td>0.47</td>
<td>-1.29</td>
<td>0.20</td>
<td>[-1.54, 0.32]</td>
</tr>
<tr>
<td>CE_S</td>
<td>-1.82</td>
<td>4.02</td>
<td>-0.45</td>
<td>0.65</td>
<td>[-9.75, 6.10]</td>
</tr>
<tr>
<td>Int_1</td>
<td>0.08</td>
<td>0.08</td>
<td>1.03</td>
<td>0.31</td>
<td>[-0.07, 0.23]</td>
</tr>
</tbody>
</table>

Note. $B$ = unstandardized regression coefficient; $SE$ = standard error; $t$ = $t$ statistic; $p$ = $p$ value

Research question 6:
Does racial centrality moderate the relationship between type of undergraduate institution (HBCUs vs. PWIs) and race-related stress for Black graduate students attending PWIs?

Hypothesis 6:

1. HBCU students will experience higher levels of race-related stress than their former counterparts at PWIs. The difference in race-related stress for Black graduate students who are former undergraduate HBCU students and Black graduate students who are former PWI undergraduate students will be moderated by racial centrality, such that former HBCU students will appear
more similar to former PWI students. Racial centrality will reduce the experience of race-related stress.

This question was examined using model one in PROCESS (Hayes, 2014) to examine if racial centrality moderated the relationship between race-related stress and undergraduate institution type for current Black graduate students at PWIs. To test the hypothesis that race-related stress would be higher for former HBCU undergraduate students compared to former PWI undergraduate students and that the difference in race-related stress would be moderated by racial centrality, a hierarchal multiple regression analysis was conducted. Race-related stress (Y) was entered in as the outcome variable, type of undergraduate institution (X) was the predictor variable, and centrality (W) was the moderator variable. Specifically, this model is looking at the interaction of the variables in which one variable predicts the outcome of another via a moderating variable. A picture of this model is provided below (Figure 1). The results for this regression analysis are presented in table 6.

The overall model was statistically significant $F(3, 194) = 9.91$, $p < .000$, $R^2 = .13$, indicating that together racial centrality and type of undergraduate institution account for 13% of the variance in race related stress. Further examination indicated neither the individual predictor variables nor their interaction were statistically significant predictors on their own (type of undergraduate institution $b = -14.17$, $t(194) = -.93$, $p = .35$; racial centrality $b = 3.46$, $t(194) = 1.10$, $p = .272$; interaction term $b = 1.63$, $t(194) = .67$, $p = .500$). These results fail to support hypothesis 6.

Research question 7:
Does psychological well-being mediate the relationship between race-related stress and academic self-efficacy for Black graduate students attending PWIs?
Hypothesis 7:

1. Race-related stress will have a direct negative effect on psychological well-being. Psychological well-being will have a direct positive effect on academic self-efficacy. The effect of race-related stress on academic self-efficacy will be fully mediated by psychological well-being for Black graduate students attending PWIs.

Table 6. Regression Coefficients Race-Related Stress (Model 1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>39.57</td>
<td>19.29</td>
<td>2.05</td>
<td>0.04</td>
<td>[1.53, 77.62]</td>
</tr>
<tr>
<td>TypeofUndergrad</td>
<td>-14.17</td>
<td>15.16</td>
<td>-0.94</td>
<td>0.35</td>
<td>[-44.06, 15.72]</td>
</tr>
<tr>
<td>CE_S</td>
<td>3.46</td>
<td>3.14</td>
<td>1.10</td>
<td>0.27</td>
<td>[-2.73, 9.66]</td>
</tr>
<tr>
<td>Int_1</td>
<td>1.63</td>
<td>2.42</td>
<td>0.67</td>
<td>0.50</td>
<td>[-3.14, 6.39]</td>
</tr>
</tbody>
</table>

Note. B = unstandardized regression coefficient; SE = standard error; t = t statistic; p = p value *p < .001.

Model four in PROCESS (Hayes, 2014) was used to examine the mediation of psychological well-being on the relationship between race-related stress and academic self-efficacy. To test the hypothesis that race-related stress will have a direct negative effect on psychological well-being, psychological well-being will have a direct positive effect on academic self-efficacy, and the effect of race related stress will be fully mediated by psychological well-being, a series of multiple regressions were conducted. The independent variable in this analysis was race-related stress (RRS); (X), mediator was psychological well-being (PWB; M), and dependent variable was academic self-efficacy (GESES; Y). Specifically, this model is examining the indirect effect of race-related stress on academic self-efficacy through psychological well-being. The first regression tested the direct effect of race-related stress (X) on academic self-
efficacy (Y), and the second regression tested the indirect effect of race-related stress on academic self-efficacy through the mediating variable of psychological well-being (M). A picture of this model is below in Figure 2. The results for this analysis are presented in table 7.

Figure 1. Model 1: Conceptual Diagram and Statistical Diagram
The first regression, examining the relationship between race related stress and academic self-efficacy was not statistically significant $F(1, 197) = 1.42, p = .23, R^2 = .007$. In this regression race-related stress was not a statistically significant predictor of academic self-efficacy, $b = -.084$, $t(197) = -1.19, p = .234$. This indicates no direct relationship between race-related stress and academic self-efficacy.

The second regression, examining race-related stress and psychological well-being as predictors of academic self-efficacy was also not statistically significant $F(2, 196) = .53, p = .58, R^2 = .005$. In this regression neither race-related stress, $b = -.258$, $t(196) = -.75, p = .456$ nor psychological well-being, $b = .239$, $t(196) = .684, p = .495$ were statistically significant predictors of academic self-efficacy. These non-significant results indicate that psychological well-being does not mediate the relationship between race-related stress and graduate student academic self-efficacy and fail to support hypothesis 7.

Table 7.
Regression Coefficients (Model 4)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological Well-Being (PWBtotal)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>150.63</td>
<td>3.98</td>
<td>37.83</td>
<td>0.00</td>
<td>[142.78, 158.49]</td>
</tr>
<tr>
<td>RRSrec_F</td>
<td>-.08</td>
<td>0.07</td>
<td>-1.19</td>
<td>0.23</td>
<td>[-.22, .06]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GESES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>358.24</td>
<td>56.21</td>
<td>6.37</td>
<td>0.00</td>
<td>[247.39, 469.10]</td>
</tr>
<tr>
<td>RRSrec_F</td>
<td>-0.26</td>
<td>0.35</td>
<td>-0.75</td>
<td>0.46</td>
<td>[-.94, .42]</td>
</tr>
<tr>
<td>PWB</td>
<td>0.24</td>
<td>0.35</td>
<td>0.68</td>
<td>0.50</td>
<td>[-.45, .93]</td>
</tr>
</tbody>
</table>

Note. B = unstandardized regression coefficient; SE = standard error; $t = t$ statistic; $p = p$ value
*p < .001
Figure 2. Model 4: Conceptual Diagram and Statistical Diagram

Indirect effect of $X$ on $Y$ through $M_i = a_i b_i$
Direct effect of $X$ on $Y = c'$

Note: Model 4 allows up to 10 mediators operating in parallel.
Research question 8:

What is the nature of the multivariate relationships among race-related stress, racial centrality, psychological wellbeing, and academic self-efficacy for Black graduate students attending PWIs? Does the nature of these relationships differ for former HBCU students as compared to former PWI students? Research suggests that Black students from HBCU undergraduate settings have different experiences than PWI undergraduate students. This suggests that the nature of the multivariate relationships among race-related stress (RRS), racial centrality (CE_S), psychological well-being (PWB), and academic self-efficacy (GESES) will differ for former HBCU students as compared to former PWI students. Due to the lack of information regarding the transition from an HBCU to a PWI, no hypothesis is offered. Instead, this question seeks to understand what those differences are.

Canonical correlation analysis (CCA) is a method used to identify correlational relationships that require multivariate techniques and allow for simultaneous comparisons among multiple variables without maximizing Type I error which is common when too many statistical tests are performed on the same data set (Zhang, Zhang, Pan, and Zhang, 2016; Sherry and Hansen, 2014). This research question was analyzed using CCA for the total sample, the sample of former HBCU students, and sample of former PWI students. Race related stress (RRS), racial centrality (CE_S), psychological well-being (PWB), academic self-efficacy (GESES), and institution type (HBCU and PWI) are the variables being studied in this analysis. Racial centrality and race related stress are predictor variables in this model and academic self-efficacy and psychological well-being are dependent variables. The results for this analysis are presented in table 8. Results for the total sample are reported first, followed by the sample of former HBCU students, and then the sample of former PWI students.
For the total sample, the full model across all functions was statistically significant $F(4, 390) = 6.53, p < .001$. The model yielded a Wilks statistic of .878, accounting for a small amount (12%) of the total variance. The analysis yielded two functions with $R^2_e$ of .12 and $R^2_e, .01$ respectively. Based on variance accounted for, only function one is interpretable, accounting for 12% of the variance in the relationships among the variables. The dimension reduction analysis found function 1 to 2 statistically significant (Wilkes = .878 $F(4, 390) = 6.533, p < .001$), while function 2 alone was not statistically significant (Wilkes = .997 $F(1, 196) = .550, p = .459$). Only the first dimension will be examined.

Examining the predictor variables for function one for the total sample found racial centrality ($CE_S r_s = .826; RRS r_s = -.249$) defining function one; the relationship between race related stress (RRS) and function one is smaller and in the opposite direction from racial centrality ($CE_S$). The standard canonical coefficients for this dimension indicate that racial centrality ($CE_S Coef = 1.03$) is also the strongest contributor to the relationship between the predictor and dependent variables. Race related stress (RRS) also is a contributor to the relationships with the dependent variables ($RRS Coef = -.599$).

Examining the dependent variables for function one for the total sample, both variables define the function, with academic self-efficacy having the stronger relationship to the function ($GESES r_s = .913; PWB r_s = .455$). The standard canonical coefficients for dimension one coincide with these findings, with academic self-efficacy being the stronger contributor to the relationship with the predictor variables ($GESES coef = .892; PWB coef = .408$). Taken together these results indicate that when racial centrality ($CE_S$) is high, self-efficacy ($GESES$) and well-being ($PWB$) are also high; when race-related stress (RRS) is high, self-efficacy ($GESES$) and well-being ($PWB$) are lower.
For the former HBCU students, the full model across all functions was statistically significant $F(4, 138) = 4.65, p = .001$. The model yielded a Wilks statistic of .776, accounting for 22% of the total variance. The analysis yielded two functions with an $R_c^2$ of .22 and $R_c^2$ of .00. Based on the variance accounted for, only function one is interpretable, accounting for 22% of the variance in the relationships among the variables for former HBCU students. The dimension reduction analysis found function 1 to 2 statistically significant (Wilks = .776 $F(4, 138) = 4.65, p = .001$), while function 2 was not statistically significant (Wilks = .999 $F(1,70) = .024, p = .875$). Only the first dimension will be examined.

Examining the predictor variables for function one for former HBCU students found centrality (CE_S) $r_s = .538$ and race related stress $r_s = -.571$ contributing relatively equally, but in opposite directions to function one. The standard canonical coefficient for dimension racial centrality (CE_S Coef = .889) and race related stress (Coef = -.914) indicate they are also relatively equal contributors to the relationship between the predictor and dependent variables.

Examining the dependent variables for function one for former HBCU students, both variables define the function, with academic self-efficacy having a stronger relationship ($R_s = .816$; PWB $R_s = .618$). The standard canonical coefficients for dimension one coincide with these results, (GESES Coef = .787 and PWB Coef = .578), with academic self-efficacy being the stronger contributor to the relationship with the predictor variables. These results indicate that when racial centrality (CE_S) is high, self-efficacy (GESES) and psychological well-being (PWB) are also high; however, when race related stress (RRS) is high, self-efficacy (GESES) and psychological well-being (PWB) are low.

For the former PWI students, the full model across all functions was statistically significant $F(4, 240) = 3.53, p = .008$. The model yielded a Wilks statistic of .892, accounting for 11% of the
total variance. The analysis yielded two functions with an $R^2$ of .11 and $R^2$ of .00. Based on variance accounted for, only one function was interpretable, accounting for 11% of the variance in the relationship among the variables. The dimension reduction analysis found function 1 to 2 statistically significant ($\text{Wilks} = .892, F(4, 240) = 3.53, p = .008$) while function 2 was not statistically significant ($\text{Wilks} .998 F(1, 121) = .262, p = .609$). Only the first dimension will be examined.

Examining the predictor variables for function one for former PWI students found centrality (CE_S) $r_s = .934$ defining function one. The standard canonical coefficients for dimension one indicate racial centrality ($\text{Coef} = 1.07$) is also the strongest contributor to the relationship between the predictor and dependent variables. While race related stress (RRS) makes virtually no contribution to defining function one: $r_s =.004$, the standardized canonical coefficient suggests it contributes a small amount to understanding the relationship between the predictor and dependent variables ($\text{Coef} = -.382$).

Examining the dependent variables for function one for former PWI students, both variables define the function with academic self-efficacy having the stronger relationship ($r_s = .953$; PWB $r_s = .357$). The standard canonical coefficients for dimension one coincide with these results (GESES $\text{Coef} = .936$; PWB $\text{Coef} = .302$) with academic self-efficacy being the stronger contributor to the relationship with the predictor variables. These results indicate that when racial centrality (CE_S) is high, self-efficacy (GESES) and psychological well-being (PWB) are also high. For this subsample of former PWI students, race-related stress has minimal influence on self-efficacy and psychological well-being, though the relationship is in the expected negative direction.
Table 8. Canonical Solution for $X$ Predicting $Y$ for Functions 1, 2, and 3 for All Respondents

<table>
<thead>
<tr>
<th>Variable</th>
<th>Function 1Full Coef</th>
<th>Function 1 HBCU Coef</th>
<th>Function 1 PWI Coef</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$r_s$</td>
<td>$r_s^2$ (%)</td>
<td>$r_s$</td>
</tr>
<tr>
<td>RRSrec_F</td>
<td>-.60</td>
<td>-.25</td>
<td>6.20</td>
</tr>
<tr>
<td>CE_S</td>
<td>1.03</td>
<td>.83</td>
<td>68.23</td>
</tr>
<tr>
<td>$R_s^2$</td>
<td></td>
<td></td>
<td>11.92</td>
</tr>
<tr>
<td>GESEScor</td>
<td>.89</td>
<td>.91</td>
<td>.83</td>
</tr>
<tr>
<td>PWBtotal</td>
<td>.41</td>
<td>.46</td>
<td>.21</td>
</tr>
</tbody>
</table>

Note. Coef = standardized canonical coefficient; $r_s$ = structure coefficient; $r_s^2$ = squared structure coefficient; $h^2$ = communality coefficient
CHAPTER 5
DISCUSSION

The purpose of this study was to examine the relationships among academic self-efficacy, race-related stress, racial centrality, and psychological well-being for Black graduate students attending a PWI. Moreover, the study sought to understand similarities and differences among these relationships for Black students who previously attended undergraduate programs at an Historically Black Colleges and University (HBCUs) compared with Black students who previously attended undergraduate programs at Predominantly White Institutions (PWIs). This study expands upon the works of Sellers et al. (1998a), Chavous (2000), and Pillay (2005). Traditionally research has studied several factors surrounding Black students’ education at HBCUs and at PWIs, including GPA (Cokley, 2000), test scores, and graduation rates (Awad, 2007; Gordon et al., 2019). However, limited research has explored the academic experiences of Black students for samples including undergraduates from both HBCUs and PWIs, and no prior research addresses how the type of undergraduate institution (HBCU/PWI) attended may impact Black students’ matriculation into PWI graduate programs.

This chapter discusses the findings in the context of prior research, acknowledges limitations of the study, and presents implications for practice and future research. The discussion is organized to understand the relationships among the variables in three distinct ways. First, ANOVAs were used to examine potential differences between former HBCU and former PWI students in racial centrality, race-related stress, psychological well-being, and graduate self-efficacy (Research questions 1-4). Second, hierarchical multiple regression was used to examine the potential moderating effects of racial centrality on experiences of race-related stress and academic self-efficacy, and the potential mediating effect of psychological well-being (Research
questions 5-7). Lastly, canonical correlation was used to explore the nature of the multivariate relationships among all study variables (Research question 8). After the discussion of the results, explanation of prior literature will be examined in connection with these findings.

There were four ANOVAs conducted examining the difference in racial centrality, psychological well-being, race-related stress, and academic self-efficacy among Black graduate students who formerly attended HBCUs and those who formerly attended PWIs. Of the four ANOVA’s conducted, the first research question examining the difference between racial centrality in former HBCU and PWI undergraduates was statistically significant, supporting the first hypothesis of Black former HBCU students holding higher racial centrality than former PWI graduate students. The ANOVA’s exploring differences among former HBCU students’ and former PWI students’ psychological well-being and race-related stress were not statistically significant, which led to rejecting the second and third hypotheses. These findings mean that there is no difference in former HBCU and former PWI graduate students’ psychological well-being or race-related stress. Finally, the ANOVA examining academic self-efficacy was not statistically significant and indicating that there is no difference among academic self-efficacy for these two groups of Black students, which supports the fourth hypothesis.

The ANOVA results indicated that current Black graduate students at PWIs, who are former HBCU undergraduate students, have higher racial centrality than current Black graduate students at PWIs who are former PWI undergraduates. They also suggest that there are no differences between Black former HBCU and former PWI undergraduate students at PWIs in levels of race-related stress, psychological well-being, or academic self-efficacy. In addition, the levels of race-related stress, psychological well-being, academic self-efficacy, and racial centrality reported indicate that Black students are well-adjusted to graduate education, have high levels of
well-being, and moderate experiences with race-related stress. When examining study variables one at a time, it was found that former HBCU and former PWI Black students are having similar experiences on PWI campuses as graduate students.

Prior research has found that Black undergraduate students at HBCUs have unique experiences compared to those in undergraduate PWI programs (Chavous et al., 2003; Cokley & Chapman, 2008; Pieterse & Carter, 2010). The current study is additive to this body of research by its expansion beyond undergraduate institution experiences for Black students to graduate experiences in that, apart from racial centrality, graduate experiences of former HBCU students may not be as unique when compared to former PWI students. This study shows that racial centrality for former HBCU students is higher than former PWI students. Although the present study did not investigate specific factors contributing to higher racial centrality among former HBCU students, HBCUs clearly have the potential to increase racial centrality through both academic and social contexts. The observed difference in racial centrality for former HBCU students in this study is meaningful in understanding how Black students understand the context of identity in their undergrad institutions and how it manifests in PWI graduate programs. Race-related stress was noted to be moderate in both samples of former HBCU and former PWI undergraduate students, indicating that similar levels of stress are felt, despite how central one’s race is and institution type. For former HBCU and PWI undergraduate students’ academic self-efficacy was found to be high among both institution types, indicating that Black graduate students experience high beliefs about their ability to get through their graduate degrees. Psychological well-being was also high for Black former HBCU and former PWI undergraduates, such that, among all other variables, these mean scores were the highest. Black graduate students experience high levels of well-being. Relationships among study variables examined in the multivariate
analyses (regression and canonical correlation) may be artificially lowered by somewhat limited variation in psychological well-being for this sample.

There were three hierarchical multiple regressions conducted to examine potential complexities in relationships among racial centrality, race-related stress, psychological well-being, and institution type. The first regression examined the potential moderating effect of racial centrality on the relationship between race-related stress and psychological well-being for Black graduate students attending PWIs. The second regression examined the potential moderating effect of racial centrality on the relationship between race-related stress and undergraduate institution type for Black graduate students attending PWIs. The third regression examined the potential mediating effect of psychological well-being on the relationship between race-related stress and academic self-efficacy for Black graduate students attending PWIs. These research questions were formed to understand previous research with contradictory findings (Pillay, 2005; Whittaker & Neville, 2010) and to expand conceptual understanding of study variables and the experiences of former Black HBCU and PWI students currently in PWI settings.

The regressions, examining the moderating effect of racial centrality on psychological well-being and race-related stress and mediating effect of psychological well-being on academic self-efficacy were not statistically significant. The regression examining the moderating effect of racial centrality on the relationship between race-related stress and undergraduate institution was statistically significant, though none of the predictor variables were statistically significant contributors to the model. A statistically significant overall model, combined with a lack of statistically significant predictor variables, suggests overlap in the variance predicted by individual variables. These results are consistent with prior ANOVA results indicating a clear relationship (shared variance) between type of institution and racial centrality and a non-significant relationship
between type of institution and race-related stress. Further, the variance accounted for by the full model (13%) is consistent with the bivariate relationship between racial centrality and race-related stress ($r^2 = .12$), suggesting that the statistically significant regression model essentially reflects the relationship between racial centrality and race-related stress.

These findings support the emotional resilience of Black students’ ability to navigate race-related stress and potentially prioritize academic scholarship over emotional well-being regardless of the institution type. Black students from HBCUs do not appear to be negatively impacted by race-related stress in a way that impacts their overall self-efficacy or emotional well-being. This might be an indication of racial centrality being a protective factor of Black students’ experiences of race-related stress or awareness of it. The effect of racial centrality on race-related stress has been documented in prior research.

The results in this study are additive to previous research, suggesting that racial centrality by itself may not be enough to understand the experience of race-related stress. Carter et al. (2017) state that in order to experience race-related stress one has to have a clear understanding of their race. Several researchers proposed that racial centrality and/or other racial ideologies are symbiotic with race-related stress or racism-based traumatic experiences (Comas-Dias, 2016; Pillay, 2005, Sellers et al, 2003). When Black students understand their identity differently (e.g., higher centrality, racial ideology such as high public regard), they may experience race-based incidents differently. When Black students have high centrality or live in communities that validate and appraise their identity as Black people, the impact on their identities may positively impact psychological well-being or lower the impact of race related stress. Depending on the type of ideology they hold, psychological experiences involving race-related stress may look different (more impactful, less impactful). Only after there is appraisal of such identity can one appraise
congruent experiences that impact one’s psychological well-being. More exploratory research is needed to understand how race related stress is experienced by Black students, including how racial ideology may play a role in the felt experience of race-related stress, more specifically, how Black former HBCU students transition to PWI graduate programs.

The final research question examined the predictors of academic self-efficacy and psychological well-being for Black graduate students at PWIs. This research question was exploratory and included exploration of how race-related stress affects Black graduate students, asking, “What is the nature of the multivariate relationship between race-related variables race-related stress and racial centrality, and wellbeing and academic self-efficacy.” Three canonical correlation analyses were performed to explore the nature of the multivariate relationship among all study variables (e.g., PWB, RRS, PWB, GESES, Institution Type). The canonical correlation was examined first for the total sample of Black graduate students, including both former HBCU and former PWI students. A second canonical correlation examined the relationships among study variables for former HBCU students only, and the third canonical correlation examined these relationships for PWI students only. All three canonical models examined the predictor variables of racial centrality and race-related stress on the dependent variables of psychological well-being and academic self-efficacy.

The first canonical model examining the total sample demonstrated that racial centrality has a strong relationship with psychological well-being and self-efficacy. Race-related stress was also a contributor to the relationship of psychological well-being and academic self-efficacy, though these relationships were in the opposite direction and smaller. This means students who reported high racial centrality also indicated high academic self-efficacy and psychological well-
being. However, student reports of high race-related stress predicted lower academic self-efficacy and well-being.

The second canonical model examined the same variables but for the subsample of former HBCU students. In this model racial centrality had a strong direct relationship with psychological well-being and academic self-efficacy. This model also found that race-related stress had a strong relationship with academic self-efficacy and psychological well-being but in the opposite direction. This means that when former HBCU students reported high racial centrality, their self-efficacy and psychological well-being are also high; in contrast, when race-related stress is low, their self-efficacy and psychological well-being are high. In this subsample, the contribution of racial centrality and race-related stress were essentially equal. This is in contrast to the model for the total sample and the subsample of former PWI students (see below). In addition, the model for former HBCU students explains double the amount of variance explained for the total sample and the subsample of former PWI students. The accounted variance suggests racial centrality and race-related stress are far more important to Black graduate students who were former HBCU undergraduate students than those who were former PWI students.

The third canonical model examined PWI students and found that racial centrality was the strongest contributor of academic self-efficacy, while race-related stress had minimal effect on academic self-efficacy or psychological wellbeing. For former PWI students, when racial centrality is high, self-efficacy and psychological well-being are high, but race-related stress has no discernable impact on self-efficacy or psychological well-being.

Roughly 80% (HBCU sample) to 90% (PWI sample) of the variance is unexplained by the canonical correlation models, indicating there is much more to understand about Black graduate students’ experiences of racial centrality, race-related stress, academic self-efficacy and
psychological well-being. More research is needed to understand the impact of HBCUs in regard to what they offer Black students psychologically and ideologically. HBCUs may impact resilience in a different way than PWI students receive, noting the difference in effects of race-related stress between the two samples (HBCU and PWI). HBCUs prepare students to have greater internalization of a positive racial identity, which has been found to link well-being and hardiness leading to resilience (Whittaker & Neville, 2010). It may be important to also examine degree level (master’s or doctorate) and academic discipline to understand what accounts for the unexplained variance. Worrell et al. (2006) found that examining racial identity attitudes was critical in understanding Black students’ connection with well-being. An important next step for this study, and potential explanation of the missing variance unaccounted for, could be the examination of racial identity attitudes. Understanding racial identity attitudes or ideologies using the full MIBI or the CRIS could potentially explain how Black students are developing in PWI and HBCU settings and what contributes to resilience and well-being as well as academic self-efficacy.

The continued examination of differences within and between disciplines and degree levels is also important. Master’s level graduate students may not be as connected to the institution and more focused on finishing their degree within the time frame of attainment. This difference, along with how central one’s racial identity is, or their racial ideology, may impact how they view their experience, whether race-based or hinderances on academic self-efficacy. For doctoral students, depending on how long they are in their programs, they may be more inundated into their educational environments, which may impact how they show up developmentally, and reveal differences between those coming from undergraduate to doctoral degrees compared to those who went through master’s to doctoral degrees. When it comes to disciplines, there may be distinct differences in the impact of self-efficacy and race-related stress. Some of these programs maybe
academic mentoring, supplemental instruction, and bridge programs. Race-related stress, and racial centrality and ideology may be different depending on the previous undergraduate experience for those who graduated from HBCU institutions and are pursuing graduate-level STEM programs. For example, these students may be directed more by their own awareness of race and how it impacts them educationally while navigating their programs, than racism itself. For those with high centrality, racial ideology would be an important factor in psychological well-being and race-related stress. However, those experiences still may not impact the overall academic self-efficacy of Black students.

These findings are consistent with the prior ANOVAs, which found racial centrality to be high for former HBCU students and the regression that indicated racial centrality and prior institution type are important when considering Black graduate student experiences. Consistently throughout the results, racial centrality was found to be a meaningful contributor to Black graduate student experiences. Black students who came from HBCU undergraduate programs reported higher racial centrality during their PWI graduate programs. Further, when centrality is high, academic self-efficacy is also high. It is also meaningful to note that in the canonical correlation models, racial centrality and race-related stress matter more in contributing to academic self-efficacy and psychological well-being for former HBCU students than in the former PWI subsample or the full sample. Although the ANOVA and regression highlight the importance of centrality for Black former HBCU students, the higher level of explained variance in the canonical correlation model for this subsample suggests they may have adjusted to the PWI graduate setting in a way that does not necessarily impact their psychological well-being or academic self-efficacy, despite high centrality and race-related stress. These findings highlight differences in experiences of former HBCU and former PWI students not captured in previous studies. Yet impresses the
need to continue research in understanding the unaccounted variance and potential other variables to explore and to explain what contributes to the psychological well-being and academic self-efficacy as well as racial centrality and race-related stress for Black former HBCU students at PWIs.

LePine et al. (2004) found that students who felt safe and unhindered by their educational institutions experienced fewer barriers to learning and retaining information. This current study adds to the literature by suggesting that Black students who may have encountered those barriers in undergraduate education may have gained experience in learning in environments with threats or hinderances and have overcome those experiences, thus, enhancing positive academic self-efficacy. Studies have also found that Black students navigating predominantly White or racially hostile spaces may lower academic self-efficacy (Greer & Chwalisz, 2007). However, this study found academic self-efficacy equal for Black students coming from HBCUs to PWI graduate programs to former PWI undergraduate students. This suggests that Black students may be making psychological adjustments that are protective to contribute to lower impact of race-related stress on academic self-efficacy in order to navigate a predominately White educational arena.

Neville et al. (2004) found that race-related stress had a negative impact on Black undergraduate students’ mental health and academic performance. The current study may indicate that students who have matured through their undergraduate experiences (positive or negative) may be better mentally and academically adjusted to graduate education regardless of the environment, such that race-related stress does not hinder their academic self-efficacy even if they are psychologically impacted by racism. Pieterse (2018) found that several variables are important when considering how Black students experience race-related stress and its impact on psychological distress. When at an HBCU, Black students are receiving the social tools alongside
the academic rigor, students are being supported and reinforced culturally, socially, and academically. Black graduate students who attended HBCU undergraduate institutions also have an awareness of the historical and generational foundation that created access for Black people in academia. This knowledge, along with systemic and institutional racism, may impact Black students’ level of support from other Black people and create a secondary resilience of knowing that being in academia is a privilege and should not be wasted. In addition, Black students at HBCUs have learned the tools to navigate the rigors of higher education, this, coupled with noting the privilege and racism that exists, may cause former Black HBCU students to may engage differently with their social environments. This may also increase their ability to navigate effectively through to graduate despite the hostility of the environment. Graduate students who are former HBCU students may recognize the burden of being Black in higher education and its rights and privileges and feel more empowered psychologically and academically to succeed.

Current literature addressing the topic discusses factors such as mentorship, visibility of same race peers and instructors, and community as important concepts that influence academic self-efficacy in racial minorities (Friesen, 2019). Academic self-efficacy has been connected to student achievement and outcomes in high school and college arenas in predicting academic performance, success, and completion of programs (Okech & Harrington, 2002; Peguero & Shaffer, 2014). High efficacy is related to positive well-being and ability to complete difficult tasks as a challenge to be mastered versus a threat. In this study, both former HBCU and PWI students may have felt that the challenge to master the task was greater than the potential threat or harm of race-related stress, increasing positive self-efficacy, even when feeling emotionally drained or impacted negatively psychologically. It is important to note that Black students experience the same level of everyday stress that White students at PWIs feel, on top of race-related issues,
however, in this sample, they have positive academic self-efficacy regardless of both types of stress.

Racial centrality has also been noted to be a protective factor for Black students (Chavous et al., 2003; Sellers, 2006) as well as a question for many researchers around heightened sensitivity to race-based issues and the negative psychological impact of that awareness. Some theorists propose that racial centrality is protective if resilience factors are strong, thus creating the psychological buffer (Carter et al., 2013; Carter & Reynolds, 2011). Black students in this study could potentially have high resiliency that allows racial centrality to buffer the effect of race-related stress on psychological well-being. Prior research has found that race-related stress and psychological well-being are connected and have a direct relationship with each other, but no research has been found to link racial centrality as a moderator of the relationship between race-related stress and psychological well-being.

This study complements prior findings in relation to race-related stress impacting psychological well-being (Awad, 2007; Chavous et al., 2003; Lockett & Harrell, 2003; Sellers et al., 2003; Smalls et al., 2007). Black students may have learned to navigate the psychological distress influenced by current psychosocial experiences in conjunction with race-related experiences throughout undergraduate institutional experiences. When in graduate PWI settings, there may be a pronounced resilience and ability to regulate emotions, decision making, and traverse threats and hinderances. It is important to add that Black students who attended an HBCU undergraduate institution are not isolated from race-related stress. It may be important to examine the types of race-related stress and racial ideology to understand how Black students situate race-based experiences in the context of learning compared to everyday experiences that are racialized.
Implications

The findings of this study have implications for practice, advocacy, and administrative work. Black students’ experiences at PWIs indicate that race-based experiences are present and have an impact on academic self-efficacy and well-being. Educational institutions should prioritize resources and programs supporting HBCU students, diversity, equity, inclusion and belonging. Maintaining connections with HBCUs and continuing to build what HBCUs model in PWI settings is imperative to Black students’ success in graduate education. When Black students leave HBCUs for graduate settings that are PWIs being able to maintain connections with their undergraduate institution for mentoring, and faculty engagement with undergraduate advisors and professors would better support the transition. This connection would also support the building of trust and mentorship from White faculty. PWIs must recognize how bias, racism, and discriminatory practices impact both the learning and the mental and emotional well-being of Black students. Creating equitable programs that hold faculty and staff accountable, increase the amount of engagement with diverse material, as well as increase the potential for positive interactions among Black students and their White peers and faculty, would support Black HBCU students. This study highlights the fact that HBCUs matter in promoting positive well-being, academic performance, centrality, and other protective factors. PWIs can create space for Black graduate students to build through positive relationships, mentorship, and bias free spaces to support the personal and academic achievements of Black students, faculty, and staff.

In counseling, it is important that there are psychological services, safe spaces, support groups, organizations, and advocacy that can help provide support in reducing race-related stress and its impact on Black graduate students in PWIs. It may be important to pay attention to students who are adjusting from HBCUs who may be experiencing higher levels of centrality leading to
high levels of race-related stress, despite how resilient those students may be psychologically. Programs that center not only Black identity but the intersection of other identities connected to Black students are imperative for counseling centers. Counseling centers also need to have equitable services that engage Black students after hours, and create visibility in seeing Black therapists, psychologists, and interns working in the center. Creating groups like Black Student Empowerment Spaces, Black Healing Conversations, Black Queer/Trans and Non-Binary Spaces in therapy as well as in connection with organizations outside of the counseling centers is an important addition to support Black students. Counseling centers can connect to cultural houses (i.e. Black Cultural Center), and the intersection of Black identity like LGBTQ+ Centers to develop programming to support Black women graduate students such as Mind, Body, and Soul, and Black queer and trans students.

Equity and visibility are important factors in supporting Black students academically. Hiring more Black faculty and staff at PWIs may be impactful. PWIs should work with HBCUs while recruiting to support the psycho-social adjustment and use successful models and programs previously developed in HBCUs (undergraduate and graduate HBCUs). PWIs can also build programs based on monitoring, assessing, and hearing out current Black graduate students from former HBCUs. Maintaining connection to one’s undergraduate HBCU institution and mentors, creating opportunity for research on diverse topics, and participation in diverse learning and practice may be influential to Black graduate students. PWIs can bring HBCU faculty to present “Brown Bags” discussing different issues, and support opportunities for students to visit HBCU campuses as exchange students and visiting professor programs that bring HBCU and PWI students and faculty to each other’s campuses. PWIs can also create more funding opportunities to support Black graduate students, faculty and staff. PWIs can also work with HBCUs to provide
tools for curriculum development around representation in classroom engagement as well as hold programs accountable for creating programming for equitable education that would center accountability, social justice advocacy, supervision of graduate students, chairs, and classroom settings in graduate programs teaching anti-bias and anti-racism work. Curriculum development that is done in conjunction with HBCUs to center multicultural ideologies and decenter white supremacy in the classroom is an important engagement strategy. PWIs can review HBCU curriculum and curriculum development processes to broaden PWI teaching strategies.

**Future Research**

Recommendations for future research should focus on various contextual variables related to academic self-efficacy for Black students and potentially understand what is happening at HBCU graduate programs and PWI graduate programs for Black students. It may be helpful to glean some insight into how Black students function in an environment with limited racial bias factors and greater protective measures at both the undergraduate and graduate levels. This may help understand how academic self-efficacy influences retention and matriculation in graduate programs. Looking into racial ideology and how racial centrality influences ideology and academic self-efficacy with race related stress in a multivariate analysis would help gather more nuanced understanding. Although racial centrality is not something that can only be formed on HBCU campuses, many people find centrality in spaces with those who hold the same racial ethnic background. Some Black students may have come to HBCUs with high centrality already, leading them to pursue HBCU education. Other Black students may have experienced a more dramatic change in racial centrality during their undergraduate years. HBCUs may provide a space for race to be central by connection to other Black peers and faculty, while also supporting the development of other identities through engagement with diversity in Black peers and faculty. While the present
study highlights the importance of racial centrality, race may not be the most central identity for all Black graduate students. More research on what is central for Black students in HBCUs would be helpful to understand the experience of centrality and identity on HBCU campuses.

Understanding the role of race-related stress on Black students and the compound effect of psychological distress may be an important next step to continue exploration at PWIs. Using measures that can target specific ideologies for Black students’ racial conceptualization may be an important addition to understanding the direct role racial ideology plays on experiences of race related stress and academic self-efficacy at PWIs. This line of research may help to create more clear implications for counseling and advocacy work. With a larger sample size, researchers could also explore relationships among more specific aspects of race-related stress, academic self-efficacy, and psychological well-being. Prior research may have focused on psychological distress rather than psychological well-being, thus further exploration of psychological well-being (in spite of potential indicators of distress) may be additive to the literature, including how resilience impacts well-being.

It may be helpful to understand how imposter syndrome, self-determination, and sense of belonging relate to Black graduate students experiences at PWIs when coming from an HBCU undergraduate program. Research in these areas may help understand additional factors that play a role in psychological functioning as it pertains to adjustment into PWI settings. Understanding what this looks like for undergraduate students as well as graduate students and potentially longitudinally over time, may give context to what is impacting Black students, that the current study did not explore.

Using a culturally responsive and psychometrically sound measure for academic self-efficacy other than the GESES may better represent the values Black students hold in connection
to their beliefs about their own abilities to navigate educational arenas that may hold bias and prejudice towards them. Understanding the culture specific values may be a clue into noting differences, if they exist, between former HBCU and former PWI students. GESES does not quite capture the academic experiences we think might be happening for Black graduate students. For example, social self-efficacy asks questions that may not be relatable to graduate students, especially those pursuing a shorter degree. In this study, some of the questions were altered to fit this sample, meaning this measure’s intent was not to examine graduate students. Finding a better scale that examines graduate student experiences, particularly Black graduate students, may be more beneficial in the future.

In addition, the MHI examines a specific time frame that may not capture the full experience of Black students’ psychological health. It may be important to look at culturally responsive measures that can also account for experiences over a longer time span, and to look longitudinally at Black students’ experiences. Including other variables, such as resilience, would be additive to future research.

Understanding the impact of faculty, staff, and peer relationships for Black students is another important aspect to consider. Prior research has found that those interpersonal relationships directly influence Black students’ experiences. At HBCUs those experiences are supportive and protective, at PWIs they may be more harmful, thus negatively impacting well-being and efficacy. Asking students to note their interactions and the impact of them emotionally and academically with faculty and staff would be meaningful in future research. Research focused more explicitly on what impacts their beliefs about their abilities, their writing, and research skills; what influences their interactions with their peers and faculty, and how they feel coming out of those interactions
and classroom engagements; as well as their sense of belonging in their graduate programs and institutions is needed.

Research on curriculum standards, development, and implementation at both HBCUs and PWIs could potentially support understanding what learning is happening in the classroom and how it impacts Black students at both institutions. Asking qualitative questions to garner feedback to better understand what is happening for Black students may help fill in gaps about Black students’ experiences. Taking this approach, it would be necessary to come from an anti-deficit perspective. This will help researchers understand what is going well, and what could be improved upon. This research could be continued by hearing from current and former graduate students and investigating from their perspective what was helpful and what they would like to see more of in both institutional settings would be beneficial. Learning from graduate students what they learned and what they wish they could have learned from HBCU undergraduate institutions that would help with their transition may also be meaningful.

Limitations

There were many limitations within this study. To start, data was collected via social media, snowball sampling, email recruitment, and list-servs. This technique limited the study due to list-servs and social media platforms attending to a certain population of students within certain programs of study such as psychology, and certain geographic locations such as the Midwest. This procedure limits the generalizability of the sample and resulted in un-equal subsample sizes for HBCU and PWI graduate students. The monetary funding for all who completed the study contributed to participants who did not fit the population taking the survey in order to secure monetary gains. This, along with the survey being conducted via Qualtrics in a self-report manner,
made it difficult to know if truthful responses were gathered and how bias was present in sampling and responses.

Over one-hundred participants were removed due to not fitting the participation criteria. Many participants were not HBCU students or were currently attending an HBCU graduate program instead of a PWI. This difference in HBCU and PWI graduate program experiences is an important one that should be studied in the future.

The GESES scale is a newly developed scale that has not been utilized in prior research examining current graduate students at PWIs from HBCUs. It lacks psychometrically sound exploration which could be meaningful in determining the validity of certain constructs of self-efficacy. In addition, understanding the multiple and complex factors that play a role in self-efficacy could lead to more meaningful results. This scale looks at efficacy academically, socially, and research based. However, looking more specially at academic self-efficacy and the variables that impact one’s academic efficacy would be more impactful than utilizing the full scale considering that social efficacy may look different for graduate students than undergraduate students. It may also be beneficial to look at research self-efficacy and its correlation with academic self-efficacy to understand how Black graduate students understand their ability to complete research as a part of their academic efficacy which this scale separates.

Exploration of the ANOVAs using other variables might yield more significant results along with increased sample size and variation across HBCU and PWI settings. The methodological choice did not allow for an in-depth study across multiple variables. It would be important in the research design to understand multiple variables in relationship with other factors such as identity ideology, demographic information, and an intentional look at the subscales within the measures used in this study. Understanding the role social cognitive theory plays in self-
efficacy and measuring those contextual variables would add to this study which is grounded in SCT.

The MHI inventory measures psychological well-being and distress based on the last month (30 days), which cannot encapsulate the experiences of individuals over an elongated period of time. Typically, graduate programs range from two years (master’s degree) to four to seven years (doctoral degree) and this measure does not capture the full range of emotional experience over this span of time. Thus, mental wellness was limited to 30 days and not the overall experience in the graduate program students are currently in.

Racial socialization prior to undergraduate education is also important to understand and may be a limitation of this study. Black folks may grow up in a community that makes race central to them and attend a PWI undergraduate institution and still face barriers in regard to centrality and race-related stress that were not picked up or highlighted in this study. Black students coming from undergraduate HBCUs learn through vicarious experiences how to engage in socially acceptable manners with peers, faculty, and staff. These vicarious experiences also influence responses to racism in the classroom. Vicarious experiences also enforce student ability to overcome negative grades and feedback from faculty.

Physiological influence on academic self-efficacy is an important construct to note. The way Black students negotiate between stress, depression and or other negative psychological states while maintaining positive academic self-efficacy is important to consider. It is also important to understand how academic self-efficacy can be negatively impacted by negative psychological states. Exploring the relationship between racial ideology and mood states may provide more context to the experiences of Black students. Exploring belonging in institution is another important factor to examine.
Conclusion

This study investigated racial centrality, psychological well-being, race-related stress and its impact on academic self-efficacy for Black former HBCU and PWI students who are currently graduate students at PWIs. Many researchers suggest that academic self-efficacy is a critical predictor in differences in matriculation, retention, and graduation rates for Black students (Awad, 2007; Cokley & Patel, 2007). Statistics presented in this study show that Black students graduate at lower levels at PWIs than HBCUs. Prior research has found significant results in regard to racial centrality and race-related stress impacting psychological well-being, noting significant differences among Black students at PWIs (Awad, 2007). Specifically, studies have found that racial centrality is a protective factor in many cases, and in this study, results indicate that centrality supports psychological well-being and academic self-efficacy. Racial centrality may also be a buffer against race-related stress, with results in this study finding that higher racial centrality was connected to low race-related stress for Black students at PWIs.

This study found similar results but also expanded upon existing literature. Specifically, this study found that Black former HBCU students have higher racial centrality than Black former PWI students, and that higher racial centrality has a positive impact on psychological well-being and academic self-efficacy. Race-related stress for former HBCU undergraduates had a negative relationship with academic self-efficacy and psychological well-being. Black graduate students who endorsed high racial centrality also had high academic self-efficacy and high psychological well-being for the total sample. However, Black graduate students from former HBCUs who reported high race-related stress also experienced lower academic self-efficacy and psychological well-being. For Black students who were former HBCU students, there was a difference in impact of race-related stress than those who were former PWI students. Former HBCU students reported
higher racial centrality, academic self-efficacy and psychological well-being than those who were former PWI students. Race-related stress for former PWI students had no impact on psychological well-being and academic self-efficacy.

Taken as a whole, the results of this study indicate that Black graduate students, regardless of institution type, may view their academic experiences differently than their racial centrality and race-based experiences. Black graduate students may have higher resilience to overcome slights and micro-aggressions in order to maintain a positive belief about their ability to navigate their programs and finish coursework. Black graduate students also have high psychological well-being regardless of undergraduate institutions. However, it was found that race-related stress can lower psychological well-being, but not enough to negatively impact academic self-efficacy. This is supported by prior research that has found that psychological well-being is negatively impacted by experiences of race-related stress (Peiterse & Carter, 2010). When it comes to racial centrality, Black students who have high racial centrality may experience greater race-related stress than those that have lower racial centrality. Researchers have also found that racial centrality is a key function in experiencing higher levels of race-related stress (Sellers et al., 1998a). Racial centrality and the support of racial identity development may be one of the important differences between experiences for Black students attending HBCUs compared to those at PWIs (Chavous, et al., 2003; Sellers et al., 1998a).
REFERENCES


https://doi.org/10.1023/B:EDPR.0000012343.9


APPENDIX A

Email to Participants

Dear Graduate Student,

My name is Maime Butler, and I am a fourth year Counseling Psychology Doctoral student at Western Michigan University. I am seeking Black graduate student participants who attended either a historically Black college or university undergraduate program or a predominantly White undergraduate program and are currently attending a predominantly White graduate program, for my dissertation. The purpose of this study is to examine the relationships among race-related experiences, well-being and beliefs about academic success for Black graduate students attending a predominantly White graduate institution. I am especially interested in including both students that completed undergraduate studies at a Historically Black College or University (HBCU) and those that completed undergraduate studies at a predominantly White institution. Upon completion of this study, you will receive a $10 gift certificate.

Once the survey is accurately completed you will be eligible to receive a $10 gift card. Once the survey is completed, you will be provided a link to another form. This second form is separate from the survey and will not be linked to your survey responses. The second form will ask for your name, your university email address, and how you would like to receive the $10, whether a cash gift card, amazon gift card, or another preference. Survey data will be processed at the end of each month and gift cards will be sent at that time.

If you are interested in potentially participating in this study, please email me at maime.l.butler@wmich.edu to request the link to the survey.

If you have any questions or concerns you can contact Maime Butler at maime.l.butler@wmich.edu. This dissertation is under the supervision of Dr. Mary Z. Anderson who can also be contacted at mary.anderson@wmich.edu.

Thank you,

Maime Butler, MA, TLLP
Doctoral Candidate - Counseling Psychology
Department of Counselor Education and Counseling Psychology
Western Michigan University
Kalamazoo, MI
(alt email) maimebutler@gmail.com
APPENDIX B

HSIRB Approval Letter

Date: November 25, 2019

To: Mary Z. Anderson, Principal Investigator
    Marko Butler, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair

Re: IRB Project Number 19-11-17

This letter will serve as confirmation that your research project titled “Examining Academic Self-Efficacy, Race-Related Stress and Racial Identity on Black Graduate Students from Undergraduate Historically Black Colleges and Universities and Predominantly White Institutions” has been approved under the exempt category of review by the Western Michigan University Institutional Review Board (IRB). The conditions and duration of this approval are specified in the policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note: This research may only be conducted exactly in the form it was approved. You must seek specific board approval for any changes to this project (e.g., add an investigator, increase number of subjects beyond the number stated in your application, etc.). Failure to obtain approval for changes will result in a protocol deviation.

In addition, if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the IRB for consultation.

The Board wishes you success in the pursuit of your research goals.

A status report is required on or prior to (no more than 30 days) November 24, 2020 and each year thereafter until closing of the study.

When this study closes, submit the required Final Report found at https://wmich.edu/research/forms.

Note: All research data must be kept in a secure location on the WMU campus for at least three (3) years after the study closes.
APPENDIX C

Demographic Questionnaire

1. Gender:
   a. Female
   b. Male
   c. Transgender
   d. Non-binary
   e. Other: _________

2. Race/Ethnicity:
   a. Black/African American
   b. Biracial/Multiracial _________
   c. Other _________

3. Graduate Program? _________ Degree level? _________ Year in program? ______

4. Graduate Institution
   1. Name of Institution __________________
   2. Type of Institution:
      a. Public Historically Black Colleges and Universities (HBCU)
      b. Private Historically Black Colleges and Universities (HBCU)
      c. Public Predominantly White Institution (PWI)
      d. Private Predominantly White Institution (PWI)

5. Undergraduate Institution
   1. Name of Institution ____________
   2. Type of Institution:
a. **Private** Historically Black Colleges and Universities (HBCU)

b. **Public** Historically Black Colleges and Universities (HBCU)

c. **Private** Predominantly White Institution (PWI)

d. **Public** Predominantly White Institution (PWI)

6. Undergraduate Major? ______________

7. Age:
   a. 18 – 24
   b. 25 – 34
   c. 35 – 44
   d. 45 – 54
   e. older than 54

8. Marital Status:
   a. Single (never married)
   b. Married or Partnered
   c. Widowed
   d. Divorced
   e. Separated

9. Do you have children? Yes ___  No _____ If so, how many under the age 18? ____

10. What is the highest level of education your parents or primary guardians have completed?:
   a. Mother/Father Primary guardian__________
   b. Father/Father Primary guardian __
   c. Unknown______

11. First generation college student?:
   a. Yes
   b. No
12. What is your religious affiliation?:
   a. Protestant
   b. Catholic
   c. Muslim
   d. Jewish
   e. Non-Denominational
   f. Atheist
   g. None
   h. Other _________

13. Socio-economic Status: ____________
   a. $ 0 - $ 25,999
   b. $ 26,000 - $ - 51,999
   c. $ 52,000 - $ 74,999
   d. $ more than $ 75,000

14. Employment Status:
   a. Employed full time (40 or more hours per week)
   b. Employed part time (up to 39 hours per week)
   c. Unemployed and currently looking for work
   d. Unemployed and not currently looking for work
   e. Student
   f. Retired
   g. Homemaker
   h. Self-employed
   i. Unable to work
Q1 On a scale from 1 to 6, rate the following items regarding feelings of anxiety in the past month.

<table>
<thead>
<tr>
<th></th>
<th>All of the time 1 (1)</th>
<th>Most of the time 2 (2)</th>
<th>A good bit of the time 3 (3)</th>
<th>Some of the time 4 (4)</th>
<th>A little of the time 5 (5)</th>
<th>None of the time 6 (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Very nervous person 1 (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>Bothered by nervousness 2 (2)</td>
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<tr>
<td>3</td>
<td>Felt tense or high-strung 3 (3)</td>
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<td>4</td>
<td>Anxious, worried 4 (4)</td>
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<td>5</td>
<td>Difficulty trying to calm down 5 (5)</td>
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<tr>
<td>6</td>
<td>Nervous or jumpy 6 (6)</td>
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<tr>
<td>7</td>
<td>Restless, fidgety, impatient 7 (7)</td>
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<td>8</td>
<td>Rattled, upset, flustered 8 (8)</td>
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<td>9</td>
<td>Hands shake when doing things 9 (9)</td>
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<tr>
<td>10</td>
<td>Relax without difficulty 10 (10)</td>
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</table>
Q4 On a scale from 1 to 6, rate the follow items regarding feelings of depression in the past month.

<table>
<thead>
<tr>
<th>Item</th>
<th>All of the time 1 (1)</th>
<th>Most of the time 2 (2)</th>
<th>Some of the time 3 (3)</th>
<th>Very little of the time 4 (4)</th>
<th>A little of the time 5 (5)</th>
<th>None of the time 6 (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Moody, brooded about things (1)</td>
<td></td>
<td></td>
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<tr>
<td>2. Low or very low spirits (2)</td>
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<td>3. Felt downhearted and blue (3)</td>
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<td>4. Felt depressed (4)</td>
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<td>5. Strain, stress, pressure (5)</td>
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<td>6. Loss of Behavioral/Emotional Control (6)</td>
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<td>7. Control behavior, thoughts, feelings (7)</td>
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<td>8. Concern about losing control of mind (8)</td>
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<td>9. Felt emotionally stable (9)</td>
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<td>10. Nothing turns out as wanted (10)</td>
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<tr>
<td>11. Felt like crying (11)</td>
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<td>12. Better off if dead (12)</td>
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</tbody>
</table>
Q5 On a scale from 1 to 6, rate the follow items regarding feelings of general positive affect in the past month.

<table>
<thead>
<tr>
<th>Item</th>
<th>All of the time 1 (1)</th>
<th>Most of the time 2 (2)</th>
<th>A good bit of the time 3 (3)</th>
<th>Some of the time 4 (4)</th>
<th>A little of the time 5 (5)</th>
<th>None of the time 6 (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Happy person (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Happy, satisfied, or pleased (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Daily life interesting (3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4.</td>
<td>Felt calm and peaceful (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Felt cheerful, lighthearted (5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6.</td>
<td>Generally enjoyed things (6)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7.</td>
<td>Relaxed and free of tension (7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Living a wonderful adventure (8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>13.</td>
<td>Down in the dumps (13)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>14.</td>
<td>Think about taking own life (14)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>15.</td>
<td>Nothing to look forward to (15)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q6 On a scale from 1 to 6, rate the follow items:

<table>
<thead>
<tr>
<th>Item</th>
<th>All of the time 1 (1)</th>
<th>Most of the time 2 (2)</th>
<th>A good bit of the time 3 (3)</th>
<th>Some of the time 4 (4)</th>
<th>A little of the time 5 (5)</th>
<th>None of the time 6 (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Expect an interesting day (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Fresh and rested (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Future hopeful and promising (3)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q7 On a scale from 1 to 6, rate the follow items:

<table>
<thead>
<tr>
<th>Item</th>
<th>All of the time 1 (1)</th>
<th>Most of the time 2 (2)</th>
<th>A good bit of the time 3 (3)</th>
<th>Some of the time 4 (4)</th>
<th>A little of the time 5 (5)</th>
<th>None of the time 6 (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. I felt loved and wanted (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. My love relations are full and complete (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I have spent time feeling lonely (3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

End of Block: Mental Health Inventory

Start of Block: Index of Race-Related Stress-Brief
Q8 This survey questionnaire is intended to sample some of the experiences that Black people have in this country because of their "Blackness." There are many experiences that a black person can have in this country because of their race. Some events happen just once, some more often, while others may happen frequently. Below you will find listed some of these experiences, for which you are to indicate those that have happened to you or someone very close to you (i.e., a family member or loved one). It is important to note that a person can be affected by those events that happen to people close to them; this is why you are asked to consider such events as applying to your experiences when you complete this questionnaire. Please select the number on the scale (0 to 4) that indicates the reaction you had to the event at the time it happened. Do not leave any items blank. If an event has happened more than once, refer to the first time it happened. If an event did not happen circle 0 and go on to the next item.
| 4 = This event happened & I was extremely upset (1) | 3 = This event happened & I was upset (2) | 2 = This event happened & I was slightly upset. (3) | 1 = This event happened but did not bother me. (4) | 0 = This never happened to me. (5) |

1. You notice that crimes committed by White people tend to be romanticized, whereas the same crime committed by a Black person is portrayed as savagery, and the Black person who committed it, as an animal. (1)

2. Sales people/clerks did not say thank you or show other forms of courtesy and respect (e.g., put your things in a bag) when you shopped at some White/non-Black owned businesses. (2)
3. You notice that when Black people are killed by the police, the media informs the public of the victims' criminal record or negative information in their background, suggesting they got what they deserved. (3)

4. You have been threatened with physical violence by an individual group of White/non-Blacks. (4)

5. You observe that White kids who commit violent crimes are portrayed as "boys being boys", while Black kids who commit similar crimes are wild animals. (5)

6. You seldom hear or read anything positive about Black people on radio TV, in newspapers, or history books. (6)
7. While shopping at a store the sales clerk assumed that you couldn't afford certain items (e.g., you were directed towards the items on sale). (7)

8. You were the victim of a crime and the police treated you as if you should just accept it as part of being Black. (8)

9. You were treated with less respect and courtesy than Whites and other non-Blacks while in a store, restaurant, or other business establishment. (9)

10. You were passed over for an important project although you were more qualified and competent than the White/non-Black person given the task. (10)
11. Whites/non-Blacks have stared at you as if you didn't belong in the same place with them: whether it was a restaurant, theater or other place of business. (11)

12. You have observed the police treat White/non-Blacks with more respect and dignity than they do Blacks. (12)

13. You have been subjected to racist jokes by Whites/non-Blacks in positions of authority and you did not protest for fear they might have held it against you. (13)

14. While shopping at a store, or when attempting to make a purchase, you were ignored as if you were not a serious customer or didn't have any money. (14)
15. You have observed situations where other Blacks were treated harshly or unfairly by Whites/non-Blacks due to their race. (15)

16. You have heard reports of White people/non-Blacks who have committed crimes, and in an effort to cover up their deeds falsely reported that a Black man was responsible for the crime. (16)

17. You notice that the media plays up those stories that cast Blacks in negative ways (child abusers, rapists, muggers, etc.), usually accompanied by a large picture of a Black person looking angry or disturbed. (17)
18. You have heard racist remarks or comments about Black people spoken with impunity by While public officials or other influential White people. (18)

Q9 This survey asks questions about the belief you have in your ability to perform certain tasks associated with graduate school.

1 = Not at all Confident  10 = Completely Confident

0  1  2  3  4  5  6  7  8  9  10
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Graduate from your current institution with high grades ()</td>
</tr>
<tr>
<td>2.</td>
<td>Graduate from your current institution well prepared for a career in your field. ()</td>
</tr>
<tr>
<td>3.</td>
<td>Be accepted into one of your top 3 choices of postgraduate training or career. ()</td>
</tr>
<tr>
<td>4.</td>
<td>Score well enough on selected advanced graduate degree program exam or licensure exam for your field (e.g. GRE, GMAT, LSAT, MCAT, Medical, bar) EPPP, etc.) ()</td>
</tr>
<tr>
<td>5.</td>
<td>Earn your graduate degree. ()</td>
</tr>
<tr>
<td>6.</td>
<td>Persist in graduate school even if you are placed on academic probation for a semester. ()</td>
</tr>
<tr>
<td>7.</td>
<td>Persist in graduate school even if you fail one class. ()</td>
</tr>
<tr>
<td>8.</td>
<td>Obtain a strong letter of recommendation from at least one professor when you apply to jobs, internship, or advanced degree. ()</td>
</tr>
<tr>
<td>9.</td>
<td>Choose a career path that will fit your career goals. ()</td>
</tr>
<tr>
<td>10.</td>
<td>Choose a career path that will fit your academic aspirations. ()</td>
</tr>
<tr>
<td>11.</td>
<td>Successfully pass a comprehensive examination. ()</td>
</tr>
<tr>
<td>12.</td>
<td>Manage your time effectively enough to obtain a high GPA in graduate school and still have time for outside activities. ()</td>
</tr>
<tr>
<td>13.</td>
<td>Seek out funding for graduate school. ()</td>
</tr>
<tr>
<td>14.</td>
<td>Obtain adequate funding for graduate school. ()</td>
</tr>
<tr>
<td>15.</td>
<td>Find information needed to make an informed choice on an advanced degree to obtain or promising internship/career path to pursue. ()</td>
</tr>
<tr>
<td>16.</td>
<td>Locate campus resources ()</td>
</tr>
<tr>
<td>17.</td>
<td>Brainstorm research ideas. ()</td>
</tr>
<tr>
<td>18.</td>
<td>Conduct a search for relevant literature on a research idea. ()</td>
</tr>
<tr>
<td>19.</td>
<td>Evaluate journal articles to determine usefulness in a literature review. ()</td>
</tr>
<tr>
<td>No.</td>
<td>Task Description</td>
</tr>
<tr>
<td>-----</td>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td>20.</td>
<td>Discuss research ideas with a professor. ()</td>
</tr>
<tr>
<td>21.</td>
<td>Discuss research ideas with other students. ()</td>
</tr>
<tr>
<td>22.</td>
<td>Condense and explain the literature related to a specific research idea. ()</td>
</tr>
<tr>
<td>23.</td>
<td>Identify areas of needed research based on reading the literature. ()</td>
</tr>
<tr>
<td>24.</td>
<td>Develop a logical rationale for a research idea. ()</td>
</tr>
<tr>
<td>25.</td>
<td>Generate researchable questions. ()</td>
</tr>
<tr>
<td>26.</td>
<td>Organize your proposed research ideas in writing. ()</td>
</tr>
<tr>
<td>27.</td>
<td>Effectively edit your writing to make it logical and succinct. ()</td>
</tr>
<tr>
<td>28.</td>
<td>Choose an appropriate research design. ()</td>
</tr>
<tr>
<td>29.</td>
<td>Choose appropriate data collection methods. ()</td>
</tr>
<tr>
<td>30.</td>
<td>Choose appropriate data analysis techniques. ()</td>
</tr>
<tr>
<td>31.</td>
<td>Organize collected data for analysis. ()</td>
</tr>
<tr>
<td>32.</td>
<td>Analyze data using appropriate methods. ()</td>
</tr>
<tr>
<td>33.</td>
<td>Report your research results in writing ()</td>
</tr>
<tr>
<td>34.</td>
<td>Report your research results orally to an audience. ()</td>
</tr>
<tr>
<td>35.</td>
<td>Defend your research results to a critical audience. ()</td>
</tr>
<tr>
<td>36.</td>
<td>Complete a significant research project. ()</td>
</tr>
<tr>
<td>37.</td>
<td>Interact with other students in your academic department. ()</td>
</tr>
<tr>
<td>38.</td>
<td>Interact with your professors in a social setting outside of normal classroom activities. ()</td>
</tr>
<tr>
<td>39.</td>
<td>Visit a professor in her/his home. ()</td>
</tr>
<tr>
<td>40.</td>
<td>Work one-on-one with a professor several days a week. ()</td>
</tr>
<tr>
<td></td>
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<tr>
<td>---</td>
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</tr>
<tr>
<td><strong>41.</strong></td>
<td>Become friends with one of your professors. ()</td>
</tr>
<tr>
<td><strong>42.</strong></td>
<td>Ask a professor to mentor you. ()</td>
</tr>
<tr>
<td><strong>43.</strong></td>
<td>Introduce yourself to a professor with whom you have not had a class. ()</td>
</tr>
<tr>
<td><strong>44.</strong></td>
<td>Make a significant contribution to a conversation with a group of professors. ()</td>
</tr>
<tr>
<td><strong>45.</strong></td>
<td>Be involved in group activities with other students. ()</td>
</tr>
<tr>
<td><strong>46.</strong></td>
<td>Introduce yourself to a prominent or important person. ()</td>
</tr>
<tr>
<td><strong>47.</strong></td>
<td>Seek out and obtain needed academic assistance from a professor. ()</td>
</tr>
<tr>
<td><strong>48.</strong></td>
<td>Discuss personal issues with someone of a different race. ()</td>
</tr>
<tr>
<td><strong>49.</strong></td>
<td>Approach a group of people you don’t know and introduce yourself to them. ()</td>
</tr>
<tr>
<td><strong>50.</strong></td>
<td>Participate in extra-curricular activities (intramural sports, organizations, etc.). ()</td>
</tr>
<tr>
<td><strong>51.</strong></td>
<td>Hold a leadership position in a professional organization. ()</td>
</tr>
</tbody>
</table>
Q32 Rate the following items on a scale of 1 (strongly disagree) to 7 (strongly agree):

<table>
<thead>
<tr>
<th>Strongly Disagree 1</th>
<th>Strongly Agree 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Statement</td>
<td>Value</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>It is important for Black people to surround their children with Black art, music, and literature.</td>
<td></td>
</tr>
<tr>
<td>I feel good about Black people.</td>
<td></td>
</tr>
<tr>
<td>Overall, Blacks are considered good by others.</td>
<td></td>
</tr>
<tr>
<td>In general, being Black is an important part of my self-image.</td>
<td></td>
</tr>
<tr>
<td>I am happy that I am Black.</td>
<td></td>
</tr>
<tr>
<td>Blacks would be better off if they adopted Afrocentric values.</td>
<td></td>
</tr>
<tr>
<td>Overall, being Black has very little to do with how I feel about myself.</td>
<td></td>
</tr>
<tr>
<td>My destiny is tied to the destiny of other Black people.</td>
<td></td>
</tr>
<tr>
<td>Being Black is unimportant to my sense of what kind of person I am.</td>
<td></td>
</tr>
<tr>
<td>Black people must organize themselves into a separate Black political force.</td>
<td></td>
</tr>
<tr>
<td>In general, others respect Black people.</td>
<td></td>
</tr>
<tr>
<td>I feel that the Black community has made valuable contributions to this society.</td>
<td></td>
</tr>
<tr>
<td>I am proud to be Black.</td>
<td></td>
</tr>
<tr>
<td>In general, other groups view Blacks in a positive manner.</td>
<td></td>
</tr>
<tr>
<td>Being Black is not a major factor in my social relationships.</td>
<td></td>
</tr>
<tr>
<td>Being Black is an important reflection of who I am.</td>
<td></td>
</tr>
<tr>
<td>There are other people who experience racial injust and indignities similar to Black Americans.</td>
<td></td>
</tr>
<tr>
<td>Blacks should feel free to interact socially with White people.</td>
<td></td>
</tr>
<tr>
<td>The racism Blacks have experienced is similar to that of the other minority groups.</td>
<td></td>
</tr>
<tr>
<td>Blacks should strive to integrate all institutions which are segregated.</td>
<td></td>
</tr>
<tr>
<td>Blacks should try to work within the system to achieve their political and economic goals.</td>
<td></td>
</tr>
<tr>
<td>Statement</td>
<td>Scale</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Blacks should strive to be full members of the American political system.</td>
<td></td>
</tr>
<tr>
<td>The struggle for Black liberation in America should be closely related</td>
<td></td>
</tr>
<tr>
<td>The struggle for Black liberation in America should be closely related</td>
<td></td>
</tr>
<tr>
<td>to the struggle of other oppressed groups.</td>
<td></td>
</tr>
<tr>
<td>I have a strong attachment to other Black people.</td>
<td></td>
</tr>
<tr>
<td>Blacks should judge Whites as individuals and not as members of the White</td>
<td></td>
</tr>
<tr>
<td>race.</td>
<td></td>
</tr>
<tr>
<td>Being an individual is more important than identifying oneself as Black.</td>
<td></td>
</tr>
<tr>
<td>Blacks would be better off if they were more concerned with the problems</td>
<td></td>
</tr>
<tr>
<td>facing all people than just focusing on Black issues.</td>
<td></td>
</tr>
<tr>
<td>Blacks should have the choice to marry interracially.</td>
<td></td>
</tr>
<tr>
<td>The same forces which have led to the oppression of Black have also led</td>
<td></td>
</tr>
<tr>
<td>the oppression of other groups.</td>
<td></td>
</tr>
<tr>
<td>I have a strong sense of belonging to Black people.</td>
<td></td>
</tr>
<tr>
<td>Whenever possible, Blacks should buy from other Black businesses.</td>
<td></td>
</tr>
<tr>
<td>Black people must organize themselves into a separate Black political</td>
<td></td>
</tr>
<tr>
<td>force.</td>
<td></td>
</tr>
</tbody>
</table>

End of Block: Racial Identity

Start of Block: Perceived Racism Scale

Q34 1. Please state the degree to which you found your experience with racism to be stressful on a scale of 1 (not at all stressful) to 7 (extremely stressful).

<table>
<thead>
<tr>
<th>Not at all stressful</th>
<th>Extremely stressful</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 2 3 3 4 5 5 6 6 7</td>
<td></td>
</tr>
</tbody>
</table>

I would describe my experience with racism as...
Q35 2. In the days/weeks after my experience with racism, I thought about it

- Not at all (1)
- Once weekly (2)
- 2-3 times a week (3)
- 3 or more times a week (4)
- Once a day (5)
- 2-3 times a day (6)
- More than 3 times a day (7)

Q40 3. Whenever I thought about my experience with racism, I would think about it for

- Did not think about it (1)
- Less than 1 minute (2)
- 1-5 minutes (3)
- 15-20 minutes (4)
- 20 minutes or more (5)
- Less than an hour (6)
- Could not stop thinking about it (7)
Q37 4. In the days/weeks after my experience with racism, I continued to think about it for

- Did not think about it (1)
- Less than 7 days (2)
- 7-30 days (3)
- 1-2 months (4)
- 2-5 months (5)
- 6-9 months (6)
- I still think about it (7)

Q38 5. I would think about my experience with racism even when I didn't mean to

- Never (1)
- Rarely (2)
- Sometimes (3)
- Very often (4)
- All the time (5)
Q39 Please state the degree to which you agree or disagree with each item by selecting the number that best describes you.

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Black people have always had to deal with these kinds of events/situations, so my experience with racism was something I could manage. ()</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>7. At the time the event/situation occurred, I felt prepared to deal with it. ()</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>8. At the time the event /situation occurred, I was able to think of ways to deal with it. ()</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>9. I felt I had what I needed to deal with the event/ situation. ()</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>10. When I am around White people, I expect them to say or do something racist. ()</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>11. I believe that most Black people will experience some form of racism in the future. ()</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>12. I know that if I go where there are mostly White people, there is a good chance I will experience racism. ()</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>13. I believe there is a good chance that I will experience racism in the future. ()</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>14. I can feel my hands start to shake whenever I think I am about to experience racism. ()</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15. I get chest pains whenever I think I am about to experience racism. ()</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>16. My hands (or other body parts) sweat whenever I think I am about to experience racism. ()</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>17. I get a lump (or dryness) in my throat whenever I think I am about to experience racism. ()</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

End of Block: Perceived Racism Scale