

THE IMPACT OF STEREOTYPE THREAT
IN TWO EDUCATIONAL ENVIRONMENTS

by

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ABSTRACT

Research has shown stereotype threat to be an effective barrier to the educational pursuits of African American scholars. This dissertation examined the impact of stereotype threat on the academic performance of Black students attending two large public institutions in Alabama (one HBCU and the other PWI). Additionally, this research explored stereotype threat with special consideration to the possibility of potential moderators. The results suggest that, in conjunction with certain moderators, stereotype threat not only impacts performance on items from GRE tests, but does so differentially for students depending on the type of institution they attend. Also, this research implies that GPA, aspects of racial identity and stigma consciousness serve as moderators of the relationship between stereotype threat and performance. Further research is needed to understand the mechanism(s) underlying stereotype threat as well as the individual differences, situational circumstances or other mechanism(s) that buffer against or amplify the phenomenon.

DEDICATION

The first time I was introduced to Spelman or even college it was through *A Different World*, most specifically through the character Whitley. While I often jokingly state that this show is the catalyst of my academic pursuits, this joke is not without substance. My mother always lovingly recalls the day that a six-year old Gabrielle ran into her room and shouted “I’m going to Spelman” before running outside to play. This outburst was prompted by seeing Whitley sport a Spelman sweater on the show, and hearing my parents say things like “Spelman, that’s an amazing school.” Years later I had achieved that dream and so I added more. One of those dreams is this one, the dream of obtaining a doctorate degree, the first in my family to reach these heights. “I am because we are, we are because I am” –African Proverb. Thus, I dedicate my dissertation to the following people: my ancestors, who I can trace no further than these Alabama soils, whose enslaved bodies could have possibly helped to toil these very grounds I will receive three degrees from (two Masters and a PhD). To the multiple identities that help to inform my current existence: Black, African American, woman, southern, Texan, daughter, sister, aunt, Christian, Spelman woman, student, teacher and mentor, I thank you for aiding in crafting me into my current self. Also, to the future identities that I have put off in pursuit of this dream (i.e., a mother, wife and person who is forever done with school); I thank you for waiting on me to become a better version of myself. To my friends who sent texts and calls of motivation. Last, but certainly not least, to my family, particularly my loving parents Dennis Royal Smith and Marilyn Joyce Smith. Your unwavering love, devotion and support for me are not without notice. Thank you for the countless sacrifices you have made for me, you are

the true MVP's and this is our degree. As I submit this document I reflect on those early dreams and the small seed with which they were planted. Those famous words from the theme song to ADW keep playing in my head, may more little girls and boys have these dreams and thrive in A Different World.

I know my parents love me,
Stand behind me come what may.
I know now that I'm ready,
Because I finally heard them say
It's a different world than where you come from.

Here's a chance to make it,
If we focus on our goals.
If you dish it we can take it,
Just remember you've been told
It's a different world,
It's a different world,
Than where you come from
Than where you come from

- A Different World Theme Song

LIST OF ABBREVIATIONS AND SYMBOLS

<i>a</i>	Cronbach's index of internal consistency
<i>df</i>	Degrees of freedom: number of values free to vary after certain restrictions have been placed on the data
<i>F</i>	Fisher's <i>F</i> ratio: A ratio of two variances
<i>M</i>	Mean: the sum of a set of measurements divided by the number in the set
<i>p</i>	Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value
<i>r</i>	Pearson product-moment correlation
<i>t</i>	Computed value of <i>t</i> test
\leq	Less than or equal to
=	Equal to or equal t
HBCU	Historically Black College or University or Historically Black Colleges and Universities)
PWI	Predominately White Institution(s)
CRT	Critical Race Theory
SCT	Social Cognitive Theory
SIT	Social Identity Theory
RIT	Racial Identity Theory
SR	Self-Regulation
SE	Self-Efficacy
SC	Stigma Consciousness
HSC	High Stigma Consciousness
LSC	Low Stigma Consciousness
PANAS	Positive and Negative Affect Scale
CRIS	Cross Racial Identity Scale

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There is not enough space or time to acknowledge everyone who helped to make this dissertation possible, thus I will highlight an indispensable few. To my advisor Dr. Debra McCallum, you are the epitome of an amazing mentor and it is no secret that I think you are the best advisor there is. You have patiently guided me through the unfamiliar territory that is graduate school from day one, and I am extremely grateful for all that you have done. Even in the times that you were unable to fill a role, you pointed me toward someone who could (e.g., Dr. Bolland and Dr. McKnight). My matriculation through graduate school was not easy and I found it extremely hard to find my niche and feel as if I fit into this environment. Having you as a mentor that never expressed doubt in my capabilities is an essential part of what allowed me to be steadfast and arrive at this point. You have repeatedly exceeded the expectations and responsibilities of an advisor and I am immensely appreciative of you and all that you do. To my committee for providing invaluable support and insight to make this dissertation possible, I thank you. I also acknowledge my parents, who were a supportive and secure base even when I doubted myself and they had no reference for what I was experiencing. Thank you for listening and always trying to understand and motivate me to press on. Finally, to Spelman, for being all that I dreamed and more and being the catalyst that prompted this academic journey as well as this dissertation topic.

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CHAPTER 1: INTRODUCTION

African Americans are less academically motivated and more athletic than their European American counterparts, Asians are the best at math and the worst at driving, and women are nurturers who cannot do math. While these stereotypes are frequently debated within American society, they are also assumptions that underlie a large portion of our daily interactions. By definition, stereotypes are the gross overgeneralization of people who have been grouped together based on certain commonalities (Steele & Aronson, 1995). When negative stereotypes are made salient, the targets of these stereotypes often suffer declines in their performance on tasks relevant to the salient stereotype. Due to the presence of negative group stereotypes, many individuals can succumb to the perils of stereotype threat. A salient negative stereotype paired with the expectation that others believe that the stereotype is true, tends to elicit the very behavior that could confirm the stereotype. Stereotype threat can have an immense negative effect on the social, academic, and professional lives of an individual. Namely, stereotype threat has been linked to depression, anxiety, low grades, low test scores, dropping out, and other negative academic and mental health outcomes (Aronson & Steele, 2005; Blascovich, Spencer, Quinn & Steele, 2001; Brown, & Pinel, 2003; Steele & Aronson, 1995).

This idea of stereotype threat has been tested in the context of standardized test scores in various marginalized populations. It has also been shown to have a negative effect on the test scores of individual group members when they are made aware of, or made to think about their marginalized group status. A population of particular interest has been individuals who self-identify as African American. One of the main dimensions on which African American students are stigmatized is success in educational pursuits, and it is not surprising that there are ample

attempts to pinpoint ways to boost achievement in this educational dimension for the African American population. Within this quest there is specific interest in determining ways to improve the college environment to be more inclusive and nurturing toward African American students. In determining the most appropriate model for African American student success, some scholars suggest an adaptation of the approaches used by historically Black colleges and universities (HBCU) across the nation (Pinel, Warner & Chua, 2005).

While HBCUs account for a small portion of the nation's institutions of higher education, they are responsible for a large portion of the nation's successful African American professionals. The 99 HBCUs in the U.S. represent a mere 3% of the nation's colleges and universities, yet they account for one-fourth of the nation's Black undergraduates (Knight, Davenport, Green-Powell, & Hilton, 2012). Also, according to Knight and colleagues, numbers are even more divergent at the graduate level. Of the ten top colleges that produce African American doctoral students, nine are HBCUs. Approximately 70% of African American dentists and half of African American teachers are products of an HBCU education.

Due to the majority status of African Americans at HBCUs, these schools are often cited as being able to protect students against the prevailing stereotype that African Americans are intellectually inferior (Cokley, 2000; May & Chubin, 2003). The success of students at HBCUs has been frequently attributed to the nurturing environment that allows students to pursue education without the pressures associated with being a minority. While it is assumed that there is less pressure to dispel stereotypes in HBCUs in comparison to predominantly White institutions (PWI), there has not been a systematic testing of this hypothesis. Questions pertaining to the effectiveness of a same-race environment to safeguard against the phenomenon of stereotype threat can only be answered through the testing of this threat in that environment. Therefore, this study explored the differences that exist in the impact of this pressure in an HBCU and a PWI counterpart.

Social Capital in HBCUs

There is a rising social debate centered on the continued usefulness and necessity of historically black colleges and universities (HBCU). Articles appearing in places such as *The Chronicle of Higher Education* and *The Wall Street Journal* question the validity and merit of these institutions and what should be done about them (Riley, 2010; Vedder, 2010). A recurring question about the education of African American students revolves around the benefits or perils associated with being in a predominantly African American institution. Also, similar questions about the advantages and detriments of being in a predominantly European American environment are often raised. Many of the HBCU institutions are rife with financial hardship and contain limited resources, while admitting students with lower credentials than many predominantly white institutions. However, the reality of the situation cannot be ignored. While underfunded, there seems to be some protective factor at HBCUs that does not exist at PWIs (Knight et al., 2012), which leads to higher levels of achievement and success among the HBCU students.

CHAPTER 2: THEORETICAL UNDERPINNINGS AND LITERATURE REVIEW

Stereotypes and Stereotype Threat

Stereotypes are a pervasive part of our culture. They are a part of our everyday experiences and contribute to a large portion of our understanding of our environment. Stereotypes contribute to the shaping of our expectations and behaviors, as well as our interpretation of many social situations. Stereotypes consist of cultural knowledge, which often creates both positive and negative expectations in the social environment (Aronson & Steele, 2005). Stereotypes are also necessary for individuals to be able to compartmentalize and function in an environment that is often crowded with information. Therefore, when used as a mental shortcut, stereotyping can lead to positive outcomes, but this is not always the case. Prior psychological research has shown that while adaptive, stereotypes can lead to negative effects for individuals who are the targets of negative stereotypes (Schmader, Johns, & Forbes, 2008). In fact, individuals who belong to a negatively stereotyped group consistently underperform in conditions when those stereotypes are activated.

Stereotype threat is the fear that one is at risk of confirming a negative attribute about oneself that is largely associated with a group that one identifies as an in-group (Steele & Aronson, 1995). One of the most debilitating effects of stereotype threat is the ability of the anxiety or threat to actually hinder performance and increase conformity to the relevant negative stereotypes (Aronson & Inzlicht, 2004; Gonzales, Blanton, & Williams, 2002; Meece, Glienke, & Burg, 2006; Steele & Aronson, 1995). Several studies provide evidence of stereotype threat's ability to reduce the effectiveness of an individual, causing the individual to perform in a suboptimal manner. In one of the early studies, Steele and Aronson (1995) found African American students scored lower on

standardized tests than European American students who had similar ability and achievement levels. The achievement gaps induced by stereotype threat were only elicited when the test was described as diagnostic of intelligence. African American students in the diagnostic condition displayed several more signs of distress (e.g., taking longer, skipping items, and performing lower) during the test than those in the non-diagnostic condition. These students also reported more stereotype activation, increased self-doubt, and higher desire to disassociate themselves from the Black stereotype than the individuals in the non-diagnostic condition. Following the Steele and Aronson study, a plethora of studies investigating stereotype threat ensued, confirming the existence of this phenomenon (Brown & Pinel, 2003; Davis, Aronson, & Salinas, 2006; Gonzales, Blanton & Williams, 2002; Schmader, Johns & Forbes, 2008). Confident in the existence of stereotype threat, researchers then turned their attention to pinpointing the mechanisms underlying the construct.

In an attempt to discern the root of the relationship between stereotype threat and achievement there have been systematic investigations of the potential influence of anxiety (Blascovich, et al., 2001; Steele & Aronson, 1995), cognitive load (Schmader & Johns, 2003), and expectations (Stangor, Carr, & Kiang, 1998). All of the aforementioned mechanisms have been shown to have merit in explaining the relationship in question. When participants are given tests and told that they are diagnostic tests of intelligence, effects include higher blood pressure (Blascovich et, al., 2001; Steele & Aronson, 1995), lowered working memory capacity (Schmader & Johns, 2003), and decreased expectations of success for Black students (Stangor, Carr, & Kiang, 1998).

Research suggests that stereotype threat is not only immensely powerful in determining behavior but also is fairly easy to manipulate. Previous studies have been able to invoke stereotype threat through making very minimal changes to the environment, test, or directions. For instance, simply making a student a minority in the room (Sekaquaptewa, Waldman, & Thompson, 2007) or

creating the expectation that an individual was either a numerical minority (i.e., minority status) or the single representation of his or her minority group (i.e., solo status) (Murphy, Steele, & Gross, 2007) can make group identity more salient and stereotype threat more prominent.

Global definitions of stereotype threat can create the idea that all individuals who belong to a group that is negatively stigmatized will experience some level of stereotype threat. However, there is some evidence that members of stereotyped groups are differentially affected based on certain individual differences (Aronson and Inzlicht, 2004). Although stereotype threat manipulations have been shown to be effective, simple exposure to these threatening situations does not guarantee poor performance. Several factors contribute to an individual's susceptibility to the negative effects of stereotype threat. In the proposed study some of the factors that the literature suggests to be potential buffers against stereotype threat were measured to assess the potential moderating effects of these factors. These factors are self-efficacy, self-regulation, social identity (i.e., racial identity), stigma consciousness and congruence.

Several theories help to frame the organizational context (institution type), individual cognitions and behaviors, and performance outcomes for this study. Critical Race Theory (CRT), Social Cognitive Theory (SCT), Social Identity Theory (SIT), and Racial Identity Theory (RIT) inform this study by providing a means to interpret a host of phenomena within two of today's academic institutions (i.e., PWI and HBCU). CRT is most identified as a theory that is concerned with the recognition of "the centrality and intersectionality of race, racism and social justice" (Solorzano & Yosso, 2001). CRT allows this research to explain some of the history and traditions relevant to these two types of institutions, while also addressing the cultural and social norms within them (Smith-Maddox & Solorzano, 2002; Solorzano, Ceja & Yosso, 2000; Solorzano & Yosso, 2002). Due to its interdisciplinary nature and critique of large social institutions, CRT was specifically used to understand Strange's dynamics of campus environments in relation to this particular study. SCT asserts that our behaviors and cognitions are partially the products of the

social environment, and if stereotypes are social in nature, then social cognitive variables can be expected to influence the impact of stereotypes (Aronson & Inzlicht, 2004; Aronson & Steele, 2005). Therefore, the usage of SCT to inform this research allows some deeper analyses to the actual impact of the phenomenon of stereotype threat. SIT provides a way to understand and interpret the salience of race, ethnicity, and gender among African American college students in different environments based on the way in which they are socialized within their campus environments. RIT provides insight into why racial identity is a particularly important facet of identity for individuals in the U.S., specifically African Americans. Based on the tenets of RIT, an individual's cognitions, behaviors, perspectives in life and interpretation of social events are informed by their identification with a racial group, particularly if their racial group is traditionally marginalized (e.g., African Americans).

Critical Race Theory

CRT posits that the systems and institutions within society operate on a dominant paradigm or ideology which marginalizes the contributions, epistemologies, heuristics and perspectives of those who are outside of that paradigm (Solorzano & Yosso, 2001). CRT also addresses the lack of structural or compositional diversity within most institutions. Thus, student success may be largely contingent upon a satisfying campus environment that interacts with the student's individual characteristics to promote his or her academic and personal development. Some research on the effectiveness of HBCUs suggests that African American students at these institutions are more socially and academically integrated into the campus environment than their PWI counterparts (Allen, 1992). Therefore, utilizing CRT to understand the dynamics of campus environment (Strange, 2003) and the potential difference in these two different institutions is a necessary piece of analysis for this research.

According to Strange's concept of the dynamics of campus environments (Strange, 2003), there are four dimensions that contribute to a satisfying campus environment: physical

components, human aggregates, organized environments, and constructed environments. This dissertation research focused on two of these four dimensions: human aggregates and constructed environments. According to the human aggregates dimension, there must be a collective understanding of the demographic, psychological and other pertinent characteristics of the population to predict how much impact the environment has. Specifically, this dimension includes the idea of the congruent person. According to Strange, a person can only be congruent if he or she is the same or similar to the dominant group within the environment. In this dissertation, this concept was tested through an assessment of both how congruent Black HBCU and Black PWI students feel and how well they function within these different environments. The dimension of constructed environments gauges the social climate and culture, based on the perception individuals have about the environment. Campus rules and social norms are established based on these perceptions and students are indoctrinated into this climate and learn how to survive within this environment. Specifically, some studies show that Black students at HBCUs have higher academic achievement levels, are more likely to pursue advanced degrees, and have higher rates of employment and earnings post-graduation (Allen, 1992).

Further research suggests that HBCUs provide an optimal developmental environment for Black students (Allen, 1992; Seifert, Drummond, & Pascarella, 2006). While many studies and reports suggest that HBCU students are more equipped to handle stereotype threat, there has been a lack of evidence to fully substantiate that claim. Previous research on stereotype threat has explored differences in outcomes (e.g., GPA and test scores), but most of these studies do not directly explore the potential reasons for the differential effects of stereotype threat in HBCUs and PWIs (Sparks, 2015). Also, there is more emphasis on investigating the environment itself and the student perceptions of the environment and less emphasis on testing factors that may be moderating the effect of the threat in an academically threatening situation. Thus, this research

explored both individual differences in HBCU and PWI students, as well as the differential impact of perceived stereotype threat in these two environments to put the results in perspective.

While Strange's dynamics of campus environments concept offers some analysis of the campus environment based on feelings of belonging, it fails to address certain contributing factors such as institutional racism. Therefore, the usage of CRT allows for a critical examination of these two institutions that acknowledges the historical tension between the two schools, the history surrounding the founding and building of both institutions, and the history surrounding the current state of diversity at both of these schools. The HBCU is an institution born out of a necessity to create a space to educate those of African descent in the U.S. who were both unwanted and unwelcomed in other institutions. The PWI is an institution that only recently (within the last 50 years) has begun to see strides in becoming a diverse setting. Some of these PWIs have actively engaged in efforts to recruit and retain African American students, even still many of these institutions do not have a representative population of Black students. Because CRT explicitly seeks to provide a historical context to current societal trends, it is imperative that it is used to inform the current research. CRT enables a deeper analysis of any potential difference in Black students who attend a school which was created due to the exclusion of Black students from other institutions, and Black students who attend a school which historically barred them from entering. While the researcher did not directly measure the impact of each school's racial history, it would be improper to pursue this research without recognizing both the historical and current racial differences between these two institutions.

Social Cognitive Theory

Bandura's social cognitive theory suggests that personal cognitive processes interact with the environment to impact an individual's learning as well as his or her personal performance (Bandura, 1986). Based on this theory, a student's academic performance is dependent both on individual intellectual capabilities and also on the social context in which these abilities are

nurtured and tested. An individual's ability to develop and engage these two factors appropriately will determine his or her success in academic pursuits. SCT contains three organizational factors which help to conceptualize this theory: personal factors (e.g., self-efficacy); behaviors (e.g., self-regulation); and environmental factors (e.g., mentorship). Together these are called the Model of Triadic Reciprocity (Bandura, 1986). All three of these overarching factors are interrelated in the way they impact achievement and performance. Based on this theory the feedback and mentorship that a student receives within an academic community are influenced by his or her self-efficacy, as well as the student's ability to self-regulate. Thus, success in academia is impacted by how the environment shapes the student's cognitions (e.g., motivation), as well as the learning behaviors (e.g., self-regulation) in which the student engages.

As stereotypes are essentially social in nature, personal social cognitive factors such as self-regulation should also interact with these perceived stereotypes to influence level of achievement. Research conducted by Inzlicht, McKay and Aronson (2006) suggested that individuals who were more vulnerable to stereotypes about their in-group would be less likely to perceive themselves as able to self-regulate in learning. Social cognitive theory defines self-regulated learning as a student's ability to engage in thoughts and behaviors in a manner that is strategic, proactive, and independent in order to achieve personal academic goals (Zimmerman 2008). Students who self-regulate should also be able to reflect on and evaluate past performance in order to assess what should be altered to improve future performance on similar tasks.

Research on stereotype threat and self-regulation suggests that minorities who are vulnerable to stereotypes have an impaired capacity to self-regulate their learning environments (Inzlicht et al., 2006). Therefore, it might be expected that ability to self-regulate in response to stereotype threat is associated with the social and racial environment that an individual is exposed to. Thus, if stereotypes are part of the social environment and if, as social cognitive theory posits, performance is the result of the social environment and individual personal factors, then this theory

has the potential to explain the effects of stereotype threat on academic performance. While this theory addresses the social, cognitive and behavioral reasons why stereotype threat may impact an individual, it does not address the threat these stereotypes present to a person's identity. Thus, social identity theory is discussed next to address that aspect of this research.

Social Identity Theory

SIT describes intergroup behavior as largely dependent on an individual's perception of the group's status in relation to other groups (Hogg & Williams, 2000; Tajfel, 1981). The primary tenet of social identity theory is that individuals define themselves based on two dimensions, social (as defined by membership in various social groups) and personal (those individual attributes that separate them from other people) (Howard, 2000). SIT allows insight into individual cognition and behavior and how individual identity operates within social structures (Hogg, Terry & White, 1995). According to Hogg et al., social identity is the most salient when the group identity is integrated into an individual's self-concept, and this is further ingrained when certain groups have greater access to resources, power, status and prestige.

Steele, Spencer & Aronson (2002) have positioned the idea of stereotype threat as being categorized under the broader concept of social identity threat. Therefore, being exposed to a situation in which one feels stigmatized based on a stereotype associated with one's in-group, the individual can fall prey to social identity threat (Inzlicht, Tullett, Legault, & Kang 2011). While there is a wealth of research on SIT, most of this research does not explore overlapping/intersecting social identities or possible racial and ethnic difference in how social identity is approached or manifested (Stryker, 1994; Stryker & Burke, 2000). Furthermore, because the social identity of African Americans and other marginalized groups were rarely discussed, there was almost no exploration in the literature of the variation in how African Americans identify (Burke & Tully, 1977; Stryker, 1980). Because of this gap in the social identity research, several researchers began to explore overlapping/intersecting identities and possible difference in outcomes that can be

attributed to belonging to a historically marginalized group (Hardiman & Jackson, 1997; Steele, 1997).

Hardiman and Jackson (1997) introduced a model to explore how various identities overlap and intersect in order to explain differing outcomes related to group privilege and power. This model separates identities into two categories, the agent identity and the target identity. According to this distinction agent identities are usually members of the dominant social group that define reality and social/cultural norms. These individuals are allowed to act as individuals without it being seen as representative of the group as a whole. Agent identities consequently exploit and reap benefits from the target identities even if they do not actively attempt to do so. Target identities are the focus of this particular study, and they are categorized by membership in either currently or historically oppressed marginalized groups. These individuals are often labeled as outside the societal norms and are usually not afforded the ability to act as individuals without being associated with the group. While SIT gives insight into how identity works, this research necessitates the exploration of how racial membership influences social identity. Thus, while SIT informs the researcher on how social identity operates, only constructs related to racial identity were directly measured. Therefore, in the current study the research drew heavily upon racial identity theory.

Racial Identity Theory

Racial identity theory asserts that individual perception of discrimination and racism differs based on an individual's identification with his or her racial group (Helms, 1995; Helms & Parham, 1990). Racial identity research suggests that racial identity beliefs are constructed differently for individuals due to the difference in experiences, exposure, maturation and location (Cross, 1991, Cross, Parham & Helms., 1998; Helms & Parham, 1990). In relation to stereotype threat, the cognitive burden that the stigma associated with this threat imposes is a constant burden on the identity of individuals who identify as African American (Steele & Aronson, 1995). Some

research suggests that individuals for whom being Black is central to their self-concept seem to be more susceptible to stereotype threat than those whose Black identity is not as central (Steele & Aronson, 1995). However, other research asserts that deliberate affiliation with Black identity and socialization to be aware of racial issues and racial discrimination predict positive academic performance (Murray, Stokes, & Peacock, 1999). Furthermore, it should be noted that the highest performing African American students seem to be able to navigate a healthy sense of racial identity, an awareness of structural and interpersonal discriminatory practices, and a high level of academic motivation and self-efficacy (O'Connor, 1999; Perry, Steele & Hilliard, 2003). With this in mind it is necessary to measure all of these constructs within the sample in order to tease apart some potential intervening variables that could be contributing to the effects of the manipulation. Therefore, measuring racial identity as a possible moderating factor for stereotype threat may help explain some of the difference in HBCU and PWI students. Also of relevance, the level of awareness/consciousness these individuals have pertaining to stigma may also influence susceptibility to stereotype threat.

Stigma Consciousness

Despite overwhelming evidence of the important impact of stereotypes, many people underestimate how susceptible they are to stereotypes and the possible influence stereotypes may have on their social and academic lives (Pinel, 1999). Given that people lead different lives and are exposed to different things even within the same social group, it is understandable that they would have different experiences with and interpretations of stereotypes. Stigma consciousness, or the extent to which individuals are aware of the stereotypes pertaining to their in-group, filters the experiences that are encountered on a daily basis. Therefore, high stigma consciousness (HSC) individuals are not just aware of stigma, they are fixated on it; while low stigma consciousness (LSC) individuals may be aware of it, but it is not a constant thought. Thus, those who are HSC seem to have a heightened vigilance of their environment for instances that involve prejudice based

on their stigmatized status (Pinel, 1999). The research on stigma consciousness suggests that there is a link between stigma consciousness and achievement, engagement, and performance in academia. Specifically, those who are HSC tend to also have a lower GPA and a higher level of academic disengagement in comparison to their LSC counterparts (Pinel et al., 2005).

Prior studies investigating stereotype threat and stigma consciousness posit that stigma consciousness can produce a moderating effect on stereotype threat, with HSC individuals being the most susceptible to stereotype threat (Brown & Pinel, 2003). Thus, it is expected that the level of stigma consciousness, or the extent to which an individual expects to be stereotyped by others, will impact susceptibility to stereotype threat.

CHAPTER 3: METHODS

This dissertation examines the impact of stereotype threat on the academic performance of Black students within two large public institutions in the state of Alabama (one HBCU and the other PWI). Participants completed a test of verbal and math skills that was similar to the Graduate Record Exam (GRE) in both format and rigor (although shorter) under two levels of stereotype threat (high, low). Additional variables that were investigated as potential moderators included, racial identity, self-efficacy in academia, self-regulation, stigma consciousness, and congruence.

The research questions of interest for this study were as follows: (1) how does a stereotype threat manipulation impact participant test scores? It was hypothesized that test scores would vary based on the level of stereotype threat. That is, students exposed to a low level of stereotype threat would produce higher scores than those who experienced high stereotype threat. (2) What are the performance outcomes of Black PWI and Black HBCU students who are administered a diagnostic exam under stereotype threat conditions? Because there may be something about being at an HBCU that allows students to be more comfortable in their social and academic campus environments (Allen, 1992; Fries-Britt & Turner, 2002; Vedder, 2010), it was hypothesized that HBCU students' diagnostic scores would be affected by stereotype threat less than PWI students' scores. (3) What processes (e.g., stigma consciousness and racial identity) are moderators of stereotype threat, and do they differ for PWI and HBCU students? The moderators tested were racial identity, self-efficacy in academia, self-regulation stigma consciousness and congruence. It was hypothesized that each of these -- racial identity, self-efficacy in academia, self-regulation, stigma consciousness and congruence -- would impact performance scores. However, it was predicted that racial identity and stigma consciousness would have the strongest impact on

performance. It was not hypothesized that there would be a difference in the way that these moderators act in the groups from the two institutions.

Subjects

A total of 129 African American students from a public HBCU and 110 African American students from a public PWI were participants in the study. This number was derived through the usage of an A-prior sample size calculator (Soper, 2014). Students were recruited through various means including advertisements, emails, student organizations, and classroom visits. Most participants came from classroom visits.

Procedure

On the day of the test, participants were tested in a familiar location at their respective institutions and the exam was always given by a Black proctor. Most proctors were female and any variations in gender of the proctor were minimal and recorded. Measures were taken to ensure that gender differences did not cause the results to vary. Students took a paper and pencil exam, and stereotype threat conditions were randomized and prepackaged prior to the exam day in order to keep the exam proctor blind to each participant's condition. Ten verbal and ten math questions taken from the GRE practice test were given and the score on this test served as the dependent measure. Students had one hour to complete the full packet of test and other questionnaires to induce similar time pressure that is experienced in a GRE environment. Participants were seated in the room, given a consent form for participation in the study, including permission to confirm or obtain their SAT /ACT scores and GPA from the admissions or registrar's office, and a packet of questionnaires, and told the following: "The purpose of the study is to examine the psychological and background factors involved in solving verbal and math problems. You have been given a set of verbal and math items similar to those present in the GRE and a series of brief questionnaires." Students were also told to complete the instruments in the order that they appeared in the packet to

minimize the number of students who took the measures out of their correct order. Prepackaged packets containing high or low threat manipulations were randomly ordered and then distributed to participants. Students read the prompt that manipulated stereotype threat, and then completed the exam and some additional measures. . Stereotype threat was first manipulated by varying the written information participants were provided prior to administration of the test. Students read the prompt that manipulated stereotype threat. Participants then filled out an affective state questionnaire, the Positive and Negative Affect Scale (PANAS) (Watson, Clark, & Tellegen, 1988). This provided a baseline assessment of their pre-test affective states to contribute to determination of the impact of the manipulation. Finally participants completed the exam and other subsequent measures.

In the high stereotype threat condition, participants read a prompt that referred to racial ethnic differences in test performance. Specifically, students in the high condition were reminded that there is a performance gap on the GRE with African American students being the individuals who receive much lower scores than their European American counterparts. These participants were also given a demographic section that included a question on race/ethnicity. This was done to raise the level of awareness of the students' racial/ethnic background. Participants in the high threat condition also completed a racial identity measure prior to starting the test to enhance the impact of the stereotype threat manipulation. This racial identity measure was intended to increase the salience of not only the participant's race, but also the participant's awareness of the stereotypes associated with African Americans as well as other aspects related to a Black identity.

In the low stereotype threat condition, there was no mention of racial/ethnic difference in test performance. The prompt for this group established that the individuals would be taking an exam similar to the GRE; it also stated that the exam was not diagnostic of intelligence. Participants in the low stereotype threat condition did not complete the demographic section or complete the racial identity measure until after the test. After the GRE test items, all participants

were asked to self-report their posttest reaction to the testing environment. The posttest measure included a second administration of the PANAS and a stigma consciousness measure for all participants, and a racial identity measure for the low stereotype threat condition. After the completion of the study, participants were probed for suspicion of the true nature of the study and then debriefed on the actual purpose of the study.

Approximately one week after the day of the initial participation, students were given a battery of posttest measures, administered via an online survey. These measures were given separately in order to capture some of the pertinent information that is important to the study but could potentially alter results if given during the actual study on testing day. After consent, students were given a stigma consciousness measure, a measure of self-efficacy in academia, a measure of self-regulation and another measure of racial identity (MMRI). The entire posttest took no more than 20-30 minutes of the participant's time.

Dependent Measures

Performance

The primary dependent variable was performance on items from the GRE. The items on the verbal and math test were composed of a selection of multiple choice quantitative questions, quantitative reasoning problems, reading comprehension problems, analogies, and sentence completions problems. These items were selected from previous Graduate Record Exams (GREs) and varied in levels of difficulty. The questions were taken from a practice GRE test presented on the Educational Testing Services (ETS) website. Performance was assessed by adding up all of the correct answers to the questions. Scores could range from 0 to 20. The highest score obtained by a participant was 16. The Cronbach's alpha for GRE score was .81.

Manipulation Check

The Positive and Negative Affect Scale (PANAS)

The PANAS is among the most widely used measures of affect (Watson & Clark, 1992) and consists of 20 words describing feelings and emotions. Respondents indicate how much a word describes their current feelings using a five-point scale ranging from 1 (very slightly or not at all) to 5 (extremely). Two scales capturing two separate factors are present in this measure: positive affect (PANAS PA) and negative affect (PANAS NA) (Watson, 1988). High positive affect is described by mood states such as excited or alert, while a low level of positive affect is described by words such as sluggish and unenergetic (Watson & Clark, 1994). High negative affect is described by feelings such as nervous and dissatisfied, whereas low negative affect is described with such words as calm and relaxed (Watson & Clark, 1994). Each of the measures on the PANAS is scored by adding the response scores on the ten item scale and dividing that number by ten. Higher scores on each scale indicate higher levels of affect. This measure has a high reported internal consistency reliability [time 1 ($\alpha=.89$ for PANAS PA; $\alpha=.85$ PANAS NA) and time 2 ($\alpha=.94$ for PANAS PA; $\alpha=.89$ PANAS NA)]. Also, the scale and item validity have been demonstrated with a sample comparable to the sample for this study (i.e., college students) (Watson et al., 1988). Several items measuring specific and discrete emotions were added. These items were added based on the scholarly work conducted on discrete emotions that asserts the existence of several discrete emotions (e.g., anger and fear) (Ekman, 1992; Levenson, 1992). The inclusion of these variables in the PANAS is important because the absence of these discrete emotions may cause a failure to capture the impact of stereotype threat on discrete emotions. The emotions used are those often cited in research as relevant to emotion-inducing manipulations (i.e., anger, fear, disappointment, anxiety and frustration) (Ekman, 1992; Levenson, 1992).

Demographics

Information about student racial and ethnic background, gender, age, participation in student organization systems (e.g., Greek system or SGA), classification, anticipated graduation date, family history, size and racial composition of high school, post graduate plans, educational background of parents, anticipated test date and target GRE score were collected in a demographics questionnaire.

Moderators

Congruence: Student Perception of University Structure and Support Scale

The researcher measured students' perceptions of the campus through the usage of an adaptation of the Student Perception of University Structure and Support Scale (Wintre et al., 2009), which addressed issues around connectedness with faculty and interpersonal relationships with peers. While the researcher did not directly measure the entire campus environment, this measure captures the construct of congruence. Congruence is measured through the usage of student self-reported conceptualization of the race relations on his or her individual campus as well as other campuses. This measure also assesses the students' belief in the efficacy of themselves and other students as well as the faculty associated with the campus. Congruence was utilized in order to assess how the students perceived themselves and the surrounding academic environment, as well as how they viewed the other type of institution. It was also utilized to see if there were differences in how students perceived themselves within the context of their institutional association. This measure relates to the congruence concept of the Strange's dynamics of campus environments. These scales included 21 items scored on a 4-point Likert-type scale, ranging from 1 ("very strongly disagree") to 4 ("very strongly agree").

Self-Efficacy

To assess participants' perceived efficacy in academia, they were given the Self-Efficacy for Learning Form (SELF: Zimmerman & Kitsantas, 2007). This measure assessed student self-efficacy for using various task strategies for learning through questions such as, "When you are feeling depressed about a forthcoming test, can you find a way to motivate yourself to do well?" The SELF was developed to determine the role of students' homework practices in their self-efficacy beliefs, perceptions of academic responsibility, and academic achievement. This 57-item scale measures students' perceived self-efficacy regarding performing various forms of academic learning, such as reading, note taking, test taking, writing, and studying. This scale will allow the researcher to assess students' certainty about coping with various academic problems or contexts, such as having trouble concentrating on a reading assignment or having missed class. Responses are provided on an 11-point, 0-100 percentage scale, with the options presented in increments of 10. Written descriptions are provided beside the following points on the scale: 0 (definitely cannot do it), 30 (probably cannot do it), 50 (maybe), 70 (probably can), and 100 (definitely can do it). Higher scores reflect more positive self-efficacy for learning beliefs (Zimmerman & Kitsantas, 2007). This measure has a reported internal consistency reliability of $a=.64$.

Self-Regulation

The Self-Regulation Strategy Inventory (SRSI) (Cleary, 2006) was included to assess the regulation strategies participants utilize within their academic life. This measure includes such items as, "I make sure no one disturbs me when I study." This measure of 28 items uses a 7-point scale ranging from 1 (never) to 7 (always). The measure has high internal consistency for the overall SRSI ($a = 0.91$). Higher scores indicate greater levels of self-regulation.

Cross Racial Identity Scale

As part of the high stereotype threat manipulation, students took the Cross Racial Identity Scale (CRIS), a scale developed by William Cross and revised several times by him and his

colleagues (Cross, Parham & Helms, 1998). The CRIS consists of 40 items, in which 10 items serve as filler questions while the remaining 30 items make up the 6 subscales: Pre-Encounter Assimilation (PA); Pre-Encounter Mis-education (PM); Pre-Encounter Self-Hatred (PSH); Immersion-Emersion Anti-White (IEAW); Internalization Black Nationalist (IBN); and Internalization Multiculturalist Inclusive (IMCI). Each subscale has 5 items and all items are rated on a 7-point rating scale from 1 (strongly disagree) to 7 (strongly agree) (Vandiver, Fhagen-Smith, Cokley, Cross & Worrell, 2001). All of these subscales have yielded high internal consistency reliability estimate scores in previous research. These scores are as follows: Pre-Encounter Assimilation ($a = .75$); Pre-Encounter Mis-education ($a = .78$); Pre-Encounter Self-Hatred ($a = .85$); Immersion-Emersion Anti-White ($a = .86$); Internalization Black Nationalist ($a = .82$); Internalization Multiculturalist Inclusive ($a = .67$) (Vandiver, Cross, Worrell & Fhagen-Smith, 2002). This questionnaire measures a version of the racial identity model that has three subdivisions established as possible stages of identity for African Americans.

The first category is Pre-Encounter, a stage which represents an experience which places emphasis on the dominant (i.e., White or American) culture as the culture that should be emulated and that the subordinate (i.e., Black or African American) culture is secondary or less desirable than the dominant culture. Two attitudes are reflected in this subdivision. The first is Assimilation, which involves a pro-American orientation. This subscale contains questions such as “I think of myself primarily as an American, and seldom as a member of a racial group,” to establish the relative importance of an individual’s American versus African American identity. The second attitude is the Anti-Black attitude which is separated into two divisions: Mis-education and Self-Hatred. The Mis-education subdivision includes individuals who have attitudes that may be anti-black; however, they are highly dependent on the stereotypical views that individuals adopt about other Blacks from mainstream society (Vandiver, et al., 2001). The Self-Hatred subscale refers to

the attitude African Americans have when they are uncomfortable with their own Blackness and thus, personally reject being Black (Cross & Vandiver, 2001).

Immersion-Emersion, the second subdivision is characterized by two attitudes: (1) extremely pro Black and intensely involved in Black activities (i.e., immersion); and (2) an extreme distancing from whiteness and an anti-white disposition (i.e., emersion) (Vandiver, et al., 2001). The third subdivision, Internalization, has two subscales. Both of these have a high positive race salience and engage others as allies in efforts to reach social equality; however, they differ on the amount of salient identities to which they are willing to attend (Cross & Vandiver, 2001). The first subscale is, Internalization Black Nationalist (IBN), which has vested interest in including only those who are racial/ethnic minorities in the struggle for social equality. This subscale also measures if an individual ascribes to a Pro Black mentality and a pursuit of the upliftment of Black people. The Internalization Multiculturalist Inclusive (IMCI) subscale measures how much the individual is open to engage others in the struggle for Black equality (e.g., lesbians and well-informed Whites) as well as the desire to partake in the fight for rights for those groups as well (Cross & Vandiver, 2001).

The Multidimensional Inventory of Black Identity (MIBI) served as the second measure of racial identity present in this study and was administered during the online post testing.

Participants reported their level of racial identity via MIBI instrument designed by Robert Sellers and his colleagues (Sellers, Smith, Shelton, Rowley & Chavous, 1998). The MIBI contains such items as “I love being Black” and “Society values Black people,” measuring separate aspects of an individual’s racial identity. These aspects are racial salience, racial centrality, two components of racial regard (private regard and public), and racial ideology (Sellers, et al., 1998). Sellers et al. describe racial salience as the degree to which an individual’s race is a relevant part of his or her larger self-concept. This measure can differ depending on the situation in which it is measured, as well as the individual’s inclination to define the self in terms of race. Racial centrality is the

degree to which the respondent perceives racial heritage as essential to his or her individual self-concept and esteem. Relatively stable across situations, centrality involves the level of importance given to race when an individual defines himself or herself. This measure can also involve the place race holds in the hierarchical rankings that are given to the various social identities that an individual has. Racial centrality is an 8-item measure ($\alpha=.70$) which addresses essential an individual feels his or her race is to his or her individual self-concept and esteem. Racial regard involves affective and evaluative positive and negative feelings and judgments toward one's race. This measure is split into two separate components to capture the difference between privately held versus the assumed societal feelings toward the race. Private regard is a 6-item measure ($\alpha=.78$) which addresses and individual's perception of other members of the racial group as well as his or her own membership within the group. Public regard is also a 6-item measure ($\alpha=.78$) which addresses the individual's perception of the societal view of members of the racial group (Sellers et al., 1998). Finally, racial ideology refers to the beliefs that an individual has about his or her racial group and how they should behave, this scale contains 20 questions and is broken down into four subscales. These scales contain five questions apiece and are represented as the following ideas according to Sellers and colleagues: 1) a nationalist philosophy which emphasizes the uniqueness of being of African descent; 2) an oppressed minority philosophy, which emphasizes the similarities between African Americans and other oppressed groups (e.g., Latinos); 3) an assimilation philosophy, which emphasizes the similarities between African Americans and the rest of American society; and 4) a humanist philosophy, which emphasizes the commonalties amongst all humans. The questions are scored using a 7-point Likert scale (strongly disagree to strongly agree). There are a total of 40 questions on the MIBI.

Stigma Consciousness

Students also completed the Stigma Consciousness Questionnaire (SCQ) which measures individual differences in stigma consciousness in terms of race with ten items (i.e., "My

race/ethnicity does not influence how people act with me.”) measured on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The stigma consciousness questionnaire examines the level of awareness a participant has of the stigma associated with his or her in-group (Piel, 1999). Reliability analyses for the SCQ yielded a reliability of ($\alpha = .64$) for the 10-item scale. Higher numbers will indicate higher levels of stigma consciousness.

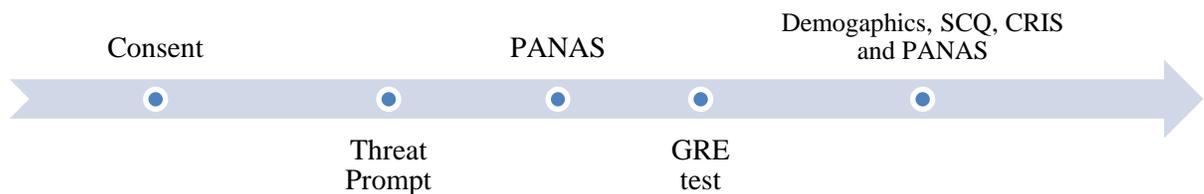
Timeline for Participants

Test Assessment

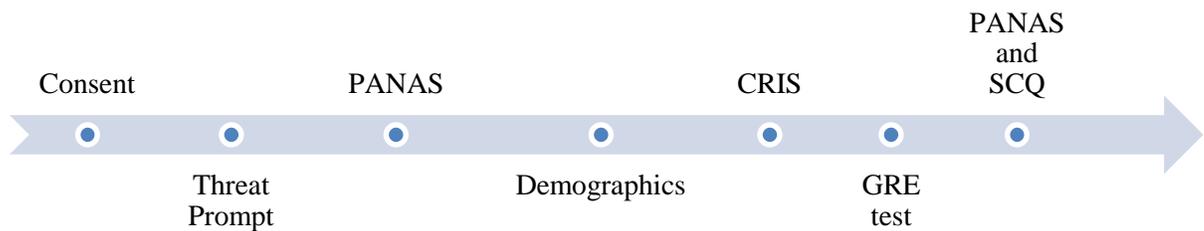
The order of administration of the various measures for each threat condition was as follows:

Figure 1: Threat Manipulation Timeline

Low Stereotype Threat Manipulation



High Stereotype Threat Manipulation



Post-test Assessment

Approximately one week after initial testing, participants were given a link via email to access posttest measures. Upon giving consent, all participants were asked to complete a demographic questionnaire, a measure of racial identity (MIBI), a stigma consciousness measure, a

measure of self-efficacy in academia, and a measure of self-regulation. The entire posttest took no more than 20-30 minutes of the participant's time.

CHAPTER 4: RESULTS

Participants

Being African American was the only criterion for participation in the study. A total of 3,492 out of 27,862 undergraduate students at the PWI were identified as possible subjects for this research based on the University's published demographics from the Office of Institutional Research and Assessment (OIRA) for spring 2015. At the HBCU there was an estimated 96% out of 4,210 undergraduate students eligible for participation. This number was inferred from data obtained from the HBCUs website. A total of 277 individuals participated in the study, and 239 of these participants completed enough of the survey items to be included in some or all of the analyses. There were 129 (3.7% of the Black population) from the HBCU and 110 (3.2% of the Black population) from the PWI. Overall there were 148 females, 81 males, and 10 individuals who failed to report or declined to answer the gender question. Ages ranged from 17 to 33, with 21.60 being the overall mean age and 21 being the median. All students involved claimed Black ancestry; however, 16 individuals claimed a mixed race background with at least one other race/ethnicity present. Among the 218 individuals reporting the place from which they came, 171 of these individuals were from the South, and 124 of these Southern individuals were from Alabama. A total of 45 of the remaining participants stated that they lived the majority of their lives outside of the South, and 2 participants cited multiple locations with one of these locations being a Southern state. The demographics presented in Table 1 provide an overview of the samples in each institution and experimental condition.

Table 1. Demographics Table						
Threat	PWI			HBCU		
	Sex	Region	Class	Sex	Region	Class
<i>High threat</i>	Males 21	Alabama 31	Freshman 38	Males 24	Alabama 34	Freshman 10
	Females 41	Southern 20	Sophomore 10	Females 39	Southern 13	Sophomore 11
			Junior 4			Junior 20
	Unknown 1	Other 10	Senior 10	Unknown 0	Other 12	Senior 20
<i>Total</i>	63	61	62	63	59	61
<i>Low threat</i>	Males 13	Alabama 23	Freshman 11	Males 23	Alabama 36	Freshman 8
	Females 31	Southern 10	Sophomore 13	Females 37	Southern 4	Sophomore 7
			Junior 9			Junior 29
	Unknown 3	Other 4	Senior 7	Unknown 6	Other 20	Senior 14
<i>Total</i>	47	37	40	66	60	58
<i>Overall Total</i>	110	98	102	129	119	119

Overview of Data

The means, standard deviations and Cronbach's alpha coefficients for all variables are presented in Tables 2 (overall), 3 (HBCU specific) and 4 (PWI specific). Tables 5-10 show the correlations among the dependent variables and the moderators of interest. Among the 239 participants, only 132 gave consent for use of their GPA, and there were similarly reduced samples for measures of self-efficacy, self-regulation, and the second PANAS assessment. Also, while SAT and ACT scores were obtained for students at the PWI, the administration at the HBCU refused access to these scores despite the signed FERPA releases from over sixty percent of the HBCU participants. Thus, only the PWI students standardized test scores were available for analyses. For students whose record contained only SAT scores, these were converted to ACT equivalents using the concordance data established by ACT in 2008, so that all students with either score could be combined into a single analysis (ACT-SAT Concordance, 2008).

Type	Measure	Scale	N	Min	Max	Mean	SD	α
Background Variables	<i>Descriptive Variables</i>	<i>GPA</i>	132	.91	4.00	2.73	.64	-
		<i>Age</i>	223	17	33	20.74	2.26	-
Moderators	<i>Self</i>	Self-Regulation	159	2.50	7	4.95	.79	.91
		Self-Efficacy	112	3.47	10	6.61	1.58	.94
	<i>Stigma</i>	Stigma Consciousness	212	1.50	6.60	4.13	.90	.64
	<i>Racial Identity</i>	PA	220	1.43	7	4.49	1.25	.75
		PM	222	1.00	7	4.20	1.36	.78
		IMCI	212	1.70	7	3.87	.94	.67
		IBN	213	1.60	7	4.81	1.21	.82
		PSH	220	1.00	7	5.96	1.26	.85
	IEAW	221	1.00	7	6.18	1.16	.86	
Dependent Variables	<i>GRE</i>	Overall GRE Score	239	0	16	5.76	2.83	.81
		Verbal	239	0	8	2.68	1.59	.43
		Math	239	0	8	3.08	1.74	.52
Manipulation check	<i>PANAS 1</i>	Positive	220	10	50	31.81	9.40	.89
		Negative	224	10	46	16.80	6.94	.85
	<i>PANAS 2</i>	Positive	134	10	50	28.13	11.17	.94
		Negative	138	10	50	17.51	7.99	.89

Type	Measure	Scale	N	Min	Max	Mean	SD	α
Background Variables	<i>Descriptive Variables</i>	<i>GPA</i>	73	.91	4.00	2.59	.67	-
		<i>Age</i>	124	18	33	21.60	2.34	-
Moderators	<i>Self</i>	Self-Regulation	107	3.14	7.00	4.96	.79	.90
		Self-Efficacy	21	3.53	9.32	6.44	1.55	.91
	<i>Stigma</i>	Stigma Consciousness	119	1.50	6.10	3.84	.87	.65
	<i>Racial Identity</i>	PA	120	1.57	6.71	4.19	1.28	.76
		PM	123	1.00	7.00	3.98	1.34	.76
		IMCI	119	1.90	5.80	4.00	.91	.64
		IBN	118	1.60	7.00	4.75	1.29	.83
		PSH	120	1.00	7.00	5.98	1.20	.85
	IEAW	124	2.60	7.00	6.15	1.08	.81	
Dependent Variables	<i>GRE</i>	Overall GRE Score	129	0	13	5.11	2.68	.82
		Verbal	129	0	7	2.43	1.47	.35
		Math	129	0	6	2.68	1.63	.53
Manipulation Check	<i>PANAS 1</i>	Positive	120	10	50	33.53	8.96	.88
		Negative	124	10	46	17.22	7.45	.86
	<i>PANAS 2</i>	Positive	74	10	50	30.23	11.29	.94
		Negative	76	10	50	19.05	8.97	.90

Table 4: Range, Means, Standard Deviations, and Alpha Coefficients (UA)

Type	Measure	Scale	N	Min	Max	Mean	SD	α
Background Variables	<i>Descriptive Variables</i>	GPA	59	1.60	4.00	2.91	1.60	-
		SAT/ACT Score	50	13	30	20.16	3.64	-
		Age	99	17	28	19.66	1.60	-
Moderators	<i>Self</i>	Self-Regulation	52	2.50	6.93	4.94	.80	.92
		Self-Efficacy	91	3.47	10	6.65	1.59	.95
	<i>Stigma</i>	Stigma Consciousness	93	2.60	6.60	4.50	.90	.60
	<i>Racial Identity</i>	PA	100	1.43	7.00	4.85	1.12	.71
		PM	99	1.40	7.00	4.46	1.33	.80
		IMCI	93	1.70	5.50	3.69	.96	.69
		IBN	95	2.00	7.00	4.88	1.11	.80
		PSH	100	1.00	7.00	5.92	1.34	.86
IEAW		97	1.00	7.00	6.22	1.25	.91	
Dependent Variables	<i>GRE</i>	Overall GRE Score	110	0	16	6.53	2.82	.77
		Verbal	110	0	8	2.98	1.67	.48
		Math	110	0	8	3.55	1.75	.46
Manipulation Check	<i>PANAS 1</i>	Positive	100	10	49	29.75	9.56	.89
		Negative	100	10	40	16.29	6.25	.83
	<i>PANAS 2</i>	Positive	60	10	48	25.55	10.49	.93
		Negative	62	10	40	15.61	6.17	.82

Table 5: Correlations of DV's with Moderators and Manipulation Check (Overall)

Category	Variables	1	2	3
Dependent Variables	1. Overall GRE	1		
	2. Verbal	.836**	1	
	3. Math	.865**	.448**	1
Moderators	4. Self-Regulation	.005	.061	-.048
	5. Self-Efficacy	.104	.092	.077
	6. Stigma Consciousness	.166*	.070	.206**
	7. PA	.178**	.166*	.137*
	8. PM	.147*	.166*	.086
	9. IMCI	-.268**	-.162*	-.285**
	10. IBN	-.013	.071	-.088
	11. PSH	.092	.060	.094
	12. IEAW	.091	.035	.116
	13. GPA	.092	.155	.014
Manipulation Check	14. PANAS Positive	-.124	-.121	-.090
	15. PANAS Negative	-.195**	-.176**	-.155*
	16. PANAS2 Positive	.010	-.057	.069
	17. PANAS2 Negative	-.284**	-.251**	-.236**
*p≤.05 **p≤.01 ***p≤.001				

<i>Category</i>	<i>Variables</i>	<i>1</i>	<i>2</i>	<i>3</i>
Dependent Variables	1. Overall	1		
	2. Verbal	.851**	1	
	3. Math	.879**	.498**	1
Moderators	4. Self-Regulation	-.022	-.049	.008
	5. Self-Efficacy	.038	-.067	.096
	6. Stigma Consciousness	.005	-.050	.053
	7. PA	-.036	.002	-.061
	8. PM	-.004	.028	-.032
	9. IMCI	-.180*	-.058	-.245**
	10. IBN	.033	.086	-.023
	11. PSH	.174	.132	.167
	12. IEAW	.091	-.010	.159
	13. GPA	.047	.068	.881
Manipulation Check	14. PANAS Positive	-.092	-.166	.000
	15. PANAS Negative	-.256**	-.311**	-.141
	16. PANAS2 Positive	.044	-.008	.080
	17. PANAS2 Negative	-.175	-.164	-.139
*p≤.05 **p≤.01 ***p≤.001				

<i>Category</i>	<i>Variables</i>	<i>1</i>	<i>2</i>	<i>3</i>
Dependent Variables	1. Overall GRE	1		
	2. Verbal	.813**	1	
	3. Math	.832**	.354**	1
Moderators	4. Self-Regulation	.079	.273	-.163
	5. Self-Efficacy	.102	.104	.061
	6. Stigma Consciousness	.135	.046	.171
	7. PA	.313**	.271**	.236*
	8. PM	.240*	.261**	.125
	9. IMCI	-.299**	-.219*	-.261*
	10. IBN	-.123	.034	-.235*
	11. PSH	.027	.004	.039
	12. IEAW	.081	.068	.063
	13. GPA	-.029	.152	-.172
	14. ACT/SAT	.429**	.357**	.299*
Manipulation Check	15. PANAS Positive	-.055	-.004	-.083
	16. PANAS Negative	-.087	.015	-.151
	17. PANAS2 Positive	.157	.020	.230
	18. PANAS2 Negative	-.329**	-.278*	-.262*
*p≤.05 **p≤.01 ***p≤.001				

Table 8: Correlations of Moderators and Manipulation Check (Overall)										
<i>Item</i>	<i>Variables</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
Mod.	(1) SR	1								
	(2) SE	.556**	1							
	(3) SC	-.134	.135	1						
	(4) PA	-.128	.210*	.496**	1					
	(5) PM	.005	.204*	.145*	.255**	1				
	(6) IMCI	-.126*	-.160	-.210**	.008	.059	1			
	(7) IBN	.071	.037	-.148*	-.029	.215**	.403**	1		
	(8) PSH	.117	.129	-.034	.031	.157*	.077	.297**	1	
	(9) IEAW	.215**	.260**	.021	-.016	.072	-.051	.258**	.520**	1
Check	(10)PANAS Positive	.363**	.389**	-.176*	-.166*	.030	-.090	-.059	.052	.011
	(11)PANAS Negative	-.131	-.295**	-.083	-.068	-.179**	.103	-.071	-.315**	-.168*
	(12)PANAS 2 Positive	-.240*	.180	-.124	-.106	-.095	-.040	-.252**	.013	.001
	(13)PANAS 2 Negative	-.354**	-.375**	-.078	-.002	-.122	.137	-.071	-.265**	-.296**
*p≤.05 **p≤.01 ***p≤.001 Mod. = Moderators										

Table 9: Correlations of Moderators and Manipulation Check (HBCU)										
<i>Category</i>	<i>Variables</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
Moderators	(1) SR	1								
	(2) SE	.579*	1							
	(3) SC	-.248*	.158	1						
	(4) PA	-.271**	.037	.436**	1					
	(5) PM	.023	.284	.061	.232*	1				
	(6) IMCI	-.141	-.388	-.036	.174	.185*	1			
	(7) IBN	.072	-.067	-.189*	-.056	.295**	.453**	1		
	(8) PSH	.168	.701**	.052	.111	.204*	.093	.323**	1	
	(9) IEAW	.266**	.520*	-.070	-.129	-.016	-.023	.355**	.441**	1
Check	(10)PANAS Positive	.363**	.389**	-.176*	-.166*	.030	-.090	-.059	.052	.011
	(11)PANAS Negative	-.131	-.295**	-.083	-.068	-.179**	.103	-.071	-.315**	-.168*
	(12)PANAS2 Positive	-.240*	.180	-.124	-.106	-.095	-.040	-.252**	.013	.001
	(13)PANAS2 Negative	-.354**	-.375**	-.078	-.002	-.122	.137	-.071	-.265**	-.296**
*p≤.05 **p≤.01 ***p≤.001										

Table 10: Correlations of Moderators and Manipulation Check (PWI)

Category	Variables	1	2	3	4	5	6	7	8	9
Moderators	1. SR	1								
	2. SE	.560**	1							
	3. SC	.060	.121	1						
	4. PA	.216	.242*	.460**	1					
	5. PM	-.031	.181	.117	.040	1				
	6. IMCI	-.099	-.114	-.324**	-.106	-.017	1			
	7. IBN	.068	.060	-.163	-.033	.077	.377**	1		
	8. PSH	.030	.030	-.109	-.048	.121	.052	.282**	1	
	9. IEAW	.146	.198	.102	.094	.163	-.071	.139	.596**	1
Check	10. PANAS Positive	.286*	.420**	-.092	-.130	.099	-.141	.032	.046	-.018
	11. PANAS Negative	-.366*	-.271*	-.072	-.008	-.194	.161	-.070	-.090	-.154
	12. PANAS2 Positive	.076	.204	-.108	.054	.043	.006	-.331*	-.044	-.081
	13. PANAS2 Negative	-.406*	-.350**	-.102	.037	-.319*	.075	-.096	-.273*	-.318*
*p≤.05 **p≤.01 ***p≤.001										

Research Questions 1 & 2:

The study utilized a 2 [Institution type (HBCU, PWI)] x 2 [Threat level (high, low)] experimental design. To address the first two research questions a 2 X 2 analysis of covariance (ANCOVA) was used with GPA as a covariate to control for general success in an academic setting. These research questions are as follows: (1) how do stereotype threat manipulations impact participant test scores? (2) What are the performance outcomes of Black PWI and Black HBCU students who are administered a diagnostic exam under stereotype threat conditions? A sample size requirement for an ANCOVA of four levels and one covariate was determined using a power analysis. Based on a power analysis conducted in G*Power, a minimum of 192 participants is needed in order to detect a medium effect size (f=0.25) using an alpha of 0.05 with power of 0.80 (Erdfelder, Faul, & Buchner, 1996; Faul, Erdfelder, Buchner, & Lang, 2013). Due to unanticipated reductions in sample sizes for some variables, it was decided to note and interpret effects that were marginally significant at levels of p<.10, in addition to effects that were statistically significant at the traditional p<.05 level.

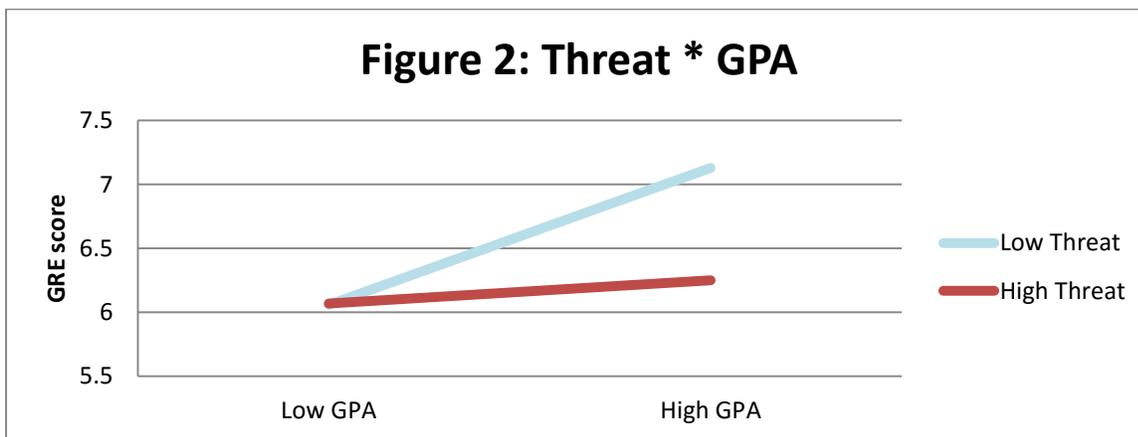
Table 11 provides the results of the ANCOVA for GRE score with GPA as a covariate for the overall sample, as well as for each institution separately, and again with ACT/SAT scores as a covariate for the PWI. Means and standard deviations for the dependent variable by institution, threat level, GPA (based on a median split to define high and low groups), ACT/SAT (based on a median split to define high and low groups), and all interactions are presented in the table as well.

Table 11: Analysis of Covariance Results for GRE Score with Covariates GPA and SAT/ACT					
	Effect	Institution and Covariate			
		Overall GPA	HBC U GPA	PWI GPA	PWI SAT/ACT
F-Values	Covariate	.252	.138	.576	9.516***
	Institution	2.079	-	-	-
	Threat	2.799*	.036	3.053*	1.253
	Institution x Threat	1.589	-	-	-
	Threat x Covariate	3.154*	.253	3.324*	1.203
	Institution x Covariate	.530	-	-	-
	Institution x Covariate x Threat	1.386	-	-	-
Degrees of Freedom		(1,124)	(1,69)	(1,55)	(1,46)
Overall	M	6.37	5.59	7.34	7.60
	SD	2.82	2.64	2.76	2.56
Low Threat	M	6.59	5.76	7.44	7.64
	SD	2.80	2.81	2.55	2.28
High Threat	M	6.16	5.45	7.22	7.58
	SD	2.86	2.52	3.04	2.81
Low Covariate	M	6.06	5.26	7.59	6.80
	SD	2.91	2.71	2.72	2.38
High Covariate	M	6.66	6.03	7.19	8.40
	SD	2.73	2.52	2.82	2.53
Low Covariate / Low Threat	M	6.06	5.44	6.90	7.00
	SD	3.05	3.15	2.77	2.45
Low Covariate / High Threat	M	6.07	6.13	7.28	6.58
	SD	2.80	2.39	2.65	2.39
High Covariate /Low Threat	M	7.13	5.25	8.23	8.56
	SD	2.43	2.59	2.05	1.74
High Covariate /High Threat	M	6.25	5.65	7.11	8.31
	SD	2.94	2.50	3.89	2.94
*p≤.10 **p≤.05 ***p≤.01 ****p≤.001					

GPA

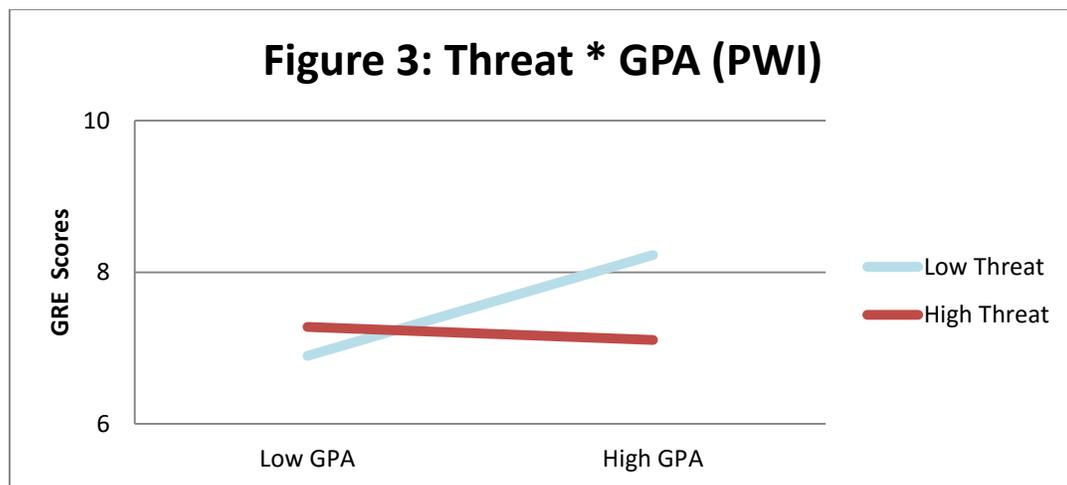
There was no significant main effect for GPA or institution. There was a marginally significant main effect for stereotype threat with higher scores in the low threat condition, (low threat, M = 6.59, SD= 2.80; high threat, M = 6.16, SD= 2.86), $F(1,124) = 2.79$, $p = .097$, as

predicted for Research question 1. The 2-way interactions between institution and threat and between institution and GPA were not significant. The 3-way interaction between institution, threat and GPA was also not significant. There was a marginally significant interaction between threat and GPA, $F(1, 124) = 3.154$, $p = .078$, partial eta squared = .025. Within this interaction, lower GPA was related to lower GRE score, regardless of threat level. At higher GPAs, low threat resulted in the highest scores; however, a high GPA and high threat resulted in scores similar to those for lower GPA. This interaction is displayed in Figure 1 using a median split for high and low GPA values. These analyses suggest that academic ability, as measured by GPA, may serve a moderating effect between stereotype threat and GRE score, with threat having a different impact at different levels of GPA. When academic ability was high, a high level of stereotype threat appeared to reduce or block the benefit of general academic ability.



To further explore question 2, separate ANCOVAs for each institution were run in order to see if GPA served as a significant covariate in relation to GPA at both institutions. In regards to the HBCU students, there were no significant main effects for threat or GPA and also no interaction between threat and GPA. Thus, there is no evidence that considering GPA impacts overall performance or the relationship between stereotype threat and GRE score. Within the PWI population there was no significant main effect for GPA. There was a marginally significant main effect for stereotype threat, with higher scores in the low threat condition (low, $M = 7.44$, $SD =$

2.55; high, $M = 7.22$, $SD = 3.04$), $F(1, 55) = 3.053$, $p = .086$, partial eta squared = .053. There was also a marginally significant interaction between threat and GPA, $F(1, 55) = 3.324$, $p = .074$, which is displayed in Figure 2. The pattern of the interaction is similar to the overall interaction between GPA and stereotype threat. These analyses indicate that for students, the effect of the stereotype threat manipulation on GRE score was for students with high GPAs, while it had little impact on those with low GPAs. Within this interaction individuals with high GPAs who experienced low levels of threat had the highest scores, while high GPA individuals experiencing high levels of threat had scores similar to those with low GPAs. Thus, rather than using GPA as a control variable, it has a moderating effect on the relationship between stereotype threat and GRE score. In line with predictions for Research question 2, the impact of stereotype threat was seen only in the PWI sample of students and not in the HBCU sample, although the interaction with institution was not significant.



ACT/SAT

Initially it was proposed that SAT or ACT scores should be used as a covariate in these analyses. Thus, the preceding analysis with GPA as a covariate was run for both institutions, and ACT /SAT scores were used in a separate analysis for PWI only. For PWI students there was only a significant main effect for ACT/SAT concordance scores (low ACT/SAT, $M = 6.80$, $SD = 2.38$; high ACT/SAT, $M = 8.40$, $SD = 2.53$), $F(1, 46) = 9.516$, $p = .003$, partial eta squared = .171. There

was no significant main effect for stereotype threat or a significant interaction between threat and ACT/SAT concordance scores. Therefore, although ACT/SAT was significantly related to GRE scores, there is no evidence to suggest that ACT/SAT interacts with threat in this model or that it is helpful as a control variable in detecting an effect for threat. Overall GPA seemed to have a more meaningful impact on the relationship between stereotype threat and GRE scores than ACT/SAT.

Additional analysis

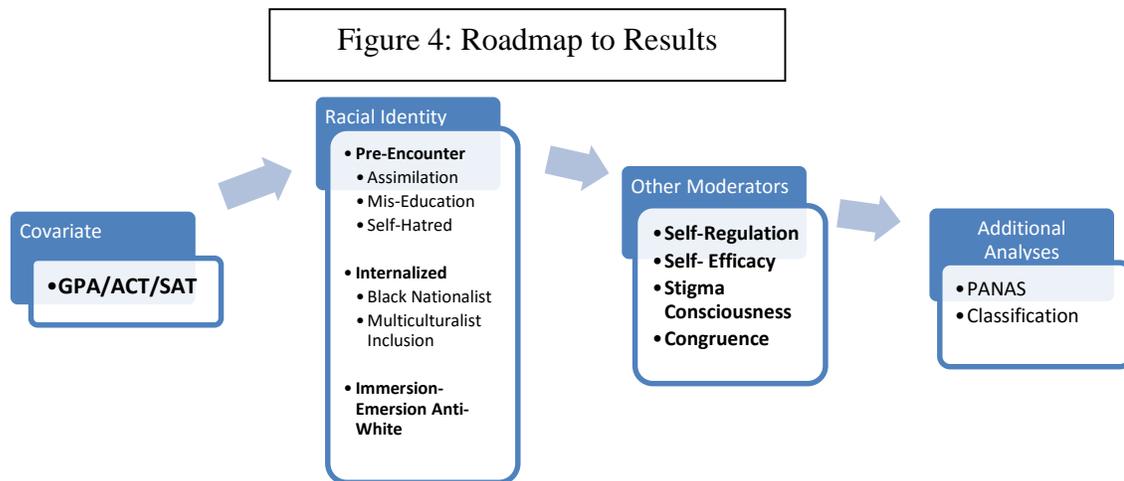
Because only a little more than half of the participants gave permission to access their GPA, and ACT/SAT was not available for one entire institution, the ANCOVAs reported are based on a reduced number of subjects. Therefore, a 2x2 ANOVA was conducted in order to test the relationship between stereotype threat and GRE scores sans covariates of GPA or ACT/SAT. In this analysis there was a significant main effect for institution, (PWI, $M=6.53$, $SD=2.82$; HBCU, $M=5.11$, $SD=2.68$), $F(1, 235) = 16.524$, $p = .000$, partial eta squared = .066. There was no significant main effect for stereotype threat and no significant interaction between stereotype threat and institution. An additional one-way ANOVA was conducted for each institution and neither revealed a significant effect for stereotype threat, although the differences are in the predicted direction for both institutions. PWI scores were low threat, $M=6.79$, $SD=2.70$; high threat, $M=6.33$, $SD=2.91$, $F(108) = .697$, $p=.406$. HBCU scores were low threat, $M=5.35$, $SD=2.77$; high threat, $M=4.86$, $SD=2.58$, $F(108) = 1.083$, $p= .300$. Thus, in both institutions, scores were higher in the low threat condition, as expected; however, these differences did not reach levels of statistical reliability. Thus, the moderating role of general academic ability (i.e., GPA) is important for understanding the effect of stereotype threat in this population.

Research Question 3:

The third question to answer was as follows: What processes (e.g., stigma consciousness and racial identity) are moderators of the effect of stereotype threat on test performance, and do they differ for PWI and HBCU students? This question was addressed using a series of

ANCOVA's to test for moderating potential among these variables. Although the overall effect for stereotype threat was only marginally significant, the tests for moderation (beyond GPA) were conducted to detect any interesting trends. The moderators tested were racial identity, self-regulation, self-efficacy, stigma consciousness and congruence. Due to sample size and complexity, these potential moderators were considered one at a time.

While the moderators were used as continuous variables within the analyses, they were made into dichotomous variables using a median split for Tables 12-17. This was done so that the means of the GRE scores were easy to interpret within the tables as well as for the graphical representation for the significant interactions. These tables report the results of the ANCOVAs conducted to test each moderator variable in a model containing the independent variables of stereotype threat and institution, all of the 2-way interactions, and the 3-way interaction. Also, these tables include GRE score means for the two institutions, two levels of threat (high and low), and the two levels of each moderator (high and low), as well as interaction cell means. Within this section we will first explore the results of racial identity and the six subscales within this measure. First the subscales involving a pre-encounter identity will be explored followed by an internalized identity and then completed with an exploration of immersion/emersion. Following the racial identity section will be the results of self-regulation and self-efficacy. The self-variables will be followed up with the results related to stigma consciousness and the congruence variables. The illustration presented below serves as a roadmap for the subsequent analyses for research question 3.



Racial Identity

In relation to racial identity, a stereotype threat (high threat/low threat) by institution (HBCU/PWI) analysis of covariance (ANCOVA) with the moderator variable entered as a moderator along with its interactions was conducted for each subscale of the CRIS. Those results are presented in Table 12, including the means for the interactions occurring between the two levels of threat and the two levels created for each moderator. Due to the frequent presence of significant main effects and interactions involving institution, the institution variable was parsed out and a separate ANCOVA was run for each institution and presented when there was a significant interaction present. Those results by institution are presented in Tables 13 and 14 as well as in the subsequent text.

Table 12: Analysis of Covariance Results Related to Racial Identity Subscales (Overall)

		Moderator					
		PA	PM	PSH	IBN	IMCI	IEAW
F-Values	Moderator	5.208**	2.88 4*	4.956**	.161	10.911****	1.878
	Institution	1.348	.010	6.536***	5.822**	2.939*	1.032
	Threat	4.054**	.615	1.338	2.132	.537	1.970
	Institution x Threat	.603	.925	1.473	3.004*	.010	2.653
	Threat x Moderator	2.272	.024	.450	4.091**	1.391	3.352*
	Institution x Mod	5.206**	1.91 1	2.763*	2.150	.702	.041
	Institution x Mod x Threat	.370	1.01 8	1.400	3.735*	.005	2.716*
Degrees of Freedom		(1,212)	(1,2 14)	(1,212)	(1,205)	(1,204)	(1, 213)
Overall	M	5.96	5.89	5.91	5.87	5.91	5.90
	SD	2.80	2.77	2.77	2.78	2.79	2.77
HBCU	M	5.24	5.20	5.22	5.15	5.22	5.21
	SD	2.67	2.66	2.69	2.68	2.70	2.65
PWI	M	6.82	6.74	6.73	6.77	6.79	6.77
	SD	2.71	2.67	2.66	2.66	2.68	2.68
Low Threat	M	6.27	6.20	6.20	6.18	6.16	6.21
	SD	2.76	2.68	2.68	2.68	2.65	2.68
High Threat	M	5.70	5.64	5.66	5.63	5.70	5.64
	SD	2.82	2.82	2.83	2.86	2.90	2.82
Low Mod.	M	5.45	5.55	5.49	5.70	6.58	5.50
	SD	2.63	2.56	2.86	2.89	2.93	2.69
High Mod.	M	6.38	6.12	6.30	6.03	5.24	6.27
	SD	2.87	2.89	2.64	2.70	2.50	2.80
Low Mod. /Low Threat	M	5.92	5.82	5.48	5.75	6.50	5.43
	SD	2.74	2.69	2.63	2.76	2.97	2.57
Low Mod. /High Threat	M	4.94	5.30	5.49	5.65	6.64	5.55
	SD	2.44	2.43	3.09	3.05	2.91	2.80
High Mod. /Low Threat	M	6.66	6.53	7.02	6.70	5.84	7.00
	SD	2.75	2.66	2.53	2.50	2.31	2.57
High Mod. /High Threat	M	6.21	5.84	5.81	5.61	4.70	5.72
	SD	2.95	3.02	2.61	2.74	2.56	2.86
Mod = Moderator							
*p≤.10 **p≤.05 ***p≤.01 ****p≤.001							

Table 13: Analysis of Covariance Results Related to Racial Identity Subscales (HBCU)							
	Effect	Moderator					
		PA	PM	PSH	IBN	IMCI	IEAW
F-Values	Moderator	.000	.056	6.942**	.817	3.176*	1.328
	Threat	1.061	.020	2.527	7.563***	.341	5.012**
	Threat x Moderator	.484	.413	1.579	11.280****	.816	6.497***
Degrees of Freedom		(1, 116)	(1, 119)	(1, 116)	(1, 114)	(1, 115)	(1, 116)
Overall	M	5.24	5.20	5.22	5.15	5.22	5.21
	SD	2.67	2.66	2.69	2.68	2.70	2.65
Low Threat	M	5.57	5.57	5.57	5.59	5.57	5.57
	SD	2.71	2.71	2.72	2.76	2.71	2.69
High Threat	M	4.92	4.86	4.87	4.73	4.86	4.86
	SD	2.61	2.58	2.63	2.56	2.66	2.58
Low Mod.	M	5.22	5.38	4.56	4.98	5.73	5.02
	SD	2.69	2.72	2.77	2.68	3.02	2.60
High Mod.	M	5.27	5.05	5.81	5.33	4.82	5.42
	SD	2.67	2.62	2.49	2.69	2.37	2.71
Low Mod. /Low Threat	M	5.54	5.46	4.88	4.94	5.89	4.91
	SD	2.69	2.81	2.58	2.51	3.29	2.45
Low Mod. /High Threat	M	4.79	5.28	4.16	5.04	5.56	5.13
	SD	2.68	2.65	3.00	2.97	2.75	2.78
High Mod. / Low Threat	M	5.62	5.70	6.36	6.57	5.30	6.31
	SD	2.82	2.64	2.70	2.89	2.16	2.79
High Threat / High Mod.	M	5.03	4.58	5.37	4.51	4.35	4.58
	SD	2.58	2.53	2.25	2.24	2.50	2.38
*p≤.10 **p≤.05 ***p≤.01 ****p≤.001							

	Effect	Moderator					
		PA	PM	PSH	IBN	IMCI	IEAW
F-Values	Moderator	9.171***	4.309**	.175	1.302	8.324***	.631
	Threat	3.139*	1.259	.002	.027	.206	.023
	Threat x Moderator	1.970	.613	.144	.003	.597	.015
Degrees of Freedom		(1,96)	(1,95)	(1,96)		(1,91)	(1,89)
Overall	M	6.82	6.74	6.73	6.77	6.79	6.77
	SD	2.71	2.67	2.66	2.66	2.68	2.68
Low Threat	M	7.36	7.21	7.21	7.11	7.11	7.27
	SD	2.48	2.33	2.33	2.27	2.27	2.33
High Threat	M	6.48	6.44	6.44	6.55	6.57	6.47
	SD	2.82	2.84	2.82	2.87	2.92	2.84
Low Mod.	M	5.94	5.85	6.54	6.78	7.42	6.21
	SD	2.46	2.27	2.61	2.88	2.60	2.68
High Mod.	M	7.24	7.20	6.92	6.76	5.95	7.22
	SD	2.74	2.76	2.71	2.51	2.58	2.61
Low Mod. /Low Threat	M	7.08	6.83	6.45	7.41	7.37	6.41
	SD	2.63	2.13	2.48	2.55	2.27	2.58
Low Mod. /High Threat	M	5.16	5.32	6.60	6.30	7.44	6.08
	SD	2.06	2.21	2.74	3.07	2.80	2.79
High Mod. / Low Threat	M	7.50	7.39	8.06	6.85	6.83	8.00
	SD	2.44	2.43	1.86	2.03	2.31	1.86
High Threat /High Mod.	M	7.07	7.08	6.28	6.71	5.23	6.77
	SD	2.93	2.98	2.92	2.77	2.62	2.89
		*p≤.10	**p≤.05	***p≤.01	****p≤.001		

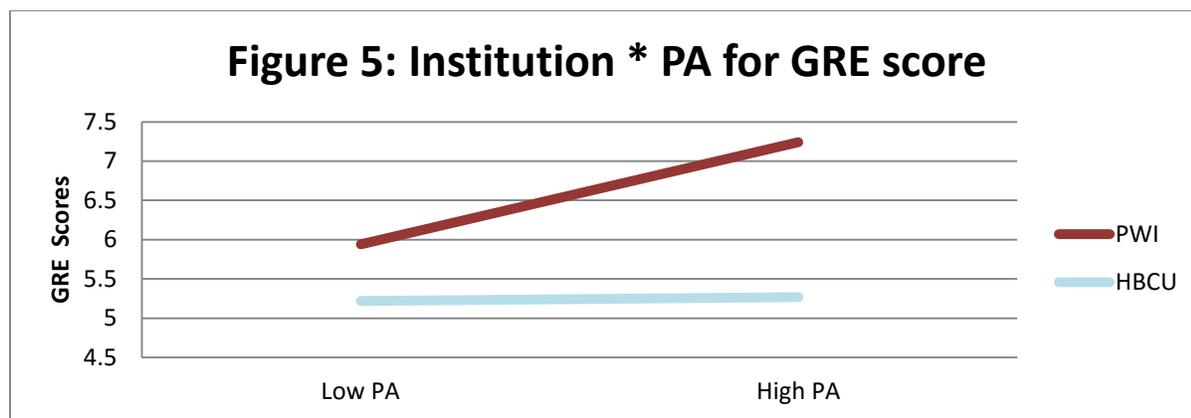
Pre-Encounter Identity

The following 3 subscales of racial identity were engaged in analyses to answer research question 3. The modified version of that question being: “How do pre-encounter attitudes toward identity moderate the effect of stereotype threat on test performance, and does their influence differ for PWI and HBCU students?”

Pre-Encounter Assimilation (PA)

There was a significant main effect for the moderator Pre-Encounter Assimilation (PA) (low PA, M=5.45, SD=2.63; high PA, M= 6.38, SD=2.87), $F(1, 212) = 5.208, p = .023$, partial eta squared =.024. There was no significant main effect for institution. There was a significant main effect for stereotype threat (low stereotype threat M = 6.27, SD= 2.76; high stereotype threat M = 5.70, SD= 2.82), $F(1, 215) = 4.054, p = .045$, partial eta squared =.019. There was no significant interaction between stereotype threat and institution or between stereotype threat and PA. The 2-

way interaction between institution and PA was significant, $F(1,212) = 5.206, p=.024$, partial eta squared = .024 and is displayed in Figure 4. Within this interaction, the scores on the GRE were low for both institutions when PA was low; however, when PA was high, PWI students scored significantly higher than HBCU students. The 3-way interaction between institution, PA and stereotype threat was not significant. Therefore, PA does seem to have some moderating effect on the relationship between institution and GRE performance, but not on the effect of stereotype threat.



Separate ANCOVAs for each institution showed only a significant effect of the moderator and a marginally significant effect for stereotype threat for PWI students with higher GRE scores associated with higher levels of PA and with the low stereotype threat. There were no interactions present for the PWI. There were no significant effects for HBCU students. These results confirm the overall analysis that PA interacts with institution such that it has an impact on GRE scores for the PWI students and not for the HBCU students. There is no evidence of a moderating effect for PA within the individual institutions of interest.

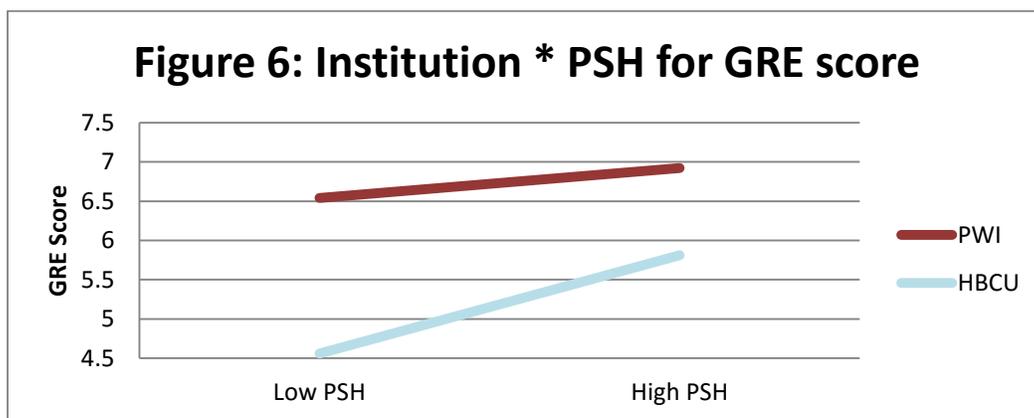
Pre-Encounter Mis-education (PM)

There was a marginally significant main effect for the moderator Pre-Encounter Mis-education (PM), with higher PM scores being associated with higher GRE scores (low PM $M= 5.55, SD= 2.56$; high PM $M= 6.12, SD= 2.89$), $F(1, 214) = 2.884, p = .091$, partial eta squared

=.013. There was no significant main effect for institution or stereotype threat and none of the 2- or 3-way interactions were significant. Separate analyses showed that PM was a significant moderator for PWI students, but not for HBCU students, and there were no other significant effects. Thus, there is no evidence that PM has a moderating effect on the relationship between stereotype threat and GRE scores.

Pre-Encounter Self-Hatred (PSH)

There was a significant main effect for the moderator Pre-Encounter Self-Hatred (PSH), with higher PSH scores being associated with higher GRE scores (low PSH, $M = 5.49$, $SD = 2.86$; high PSH, $M = 6.30$, $SD = 2.64$), $F(1, 212) = 4.956$, $p = .027$, partial eta squared = .023. There was a significant main effect for institution (HBCU, $M = 5.22$, $SD = 2.69$; PWI, $M = 6.73$, $SD = 2.66$), $F(1, 212) = 6.536$, $p = .011$, partial eta squared = .030, but no significant main effect for stereotype threat. There was no significant interaction between stereotype threat and institution or between stereotype threat and PSH. The 2-way interaction between institution and PSH was marginally significant, $F(1, 212) = 2.763$, $p = .098$, partial eta squared = .013. Within this interaction, displayed in Figure 6, when PSH was high, HBCU student scores and PWI student scores had a much smaller gap than for lower PSH scores. Generally, PSH had little relation to GRE scores of PWI students, but higher PSH was associated with higher GRE scores for HBCU students. The 3-way interaction between institution, PSH and stereotype threat was not significant. Given these results there is some evidence of a potentially moderating effect for PSH with the institution effect, but no evidence of moderation with respect to stereotype threat.



In separate institution analyses, for HBCU there was a significant main effect for Pre-Encounter Self-Hatred (PSH) as a moderator, (low PSH, $M = 4.56$, $SD = 2.77$; high PSH, $M = 5.81$, $SD = 2.49$), $F(1, 116) = 6.942$, $p = .010$, partial eta squared = .056, showing the relationship previously reported. There was no significant main effect for stereotype threat or for the interaction between stereotype threat and PSH. In relation to PWI students there were no significant main effects or interactions for Pre-Encounter Self-Hatred (PSH) as a moderator. Thus, PSH appears to only have an impact in the HBCU sample, and there is no evidence of a moderating effect on stereotype threat for PSH within the individual institutions.

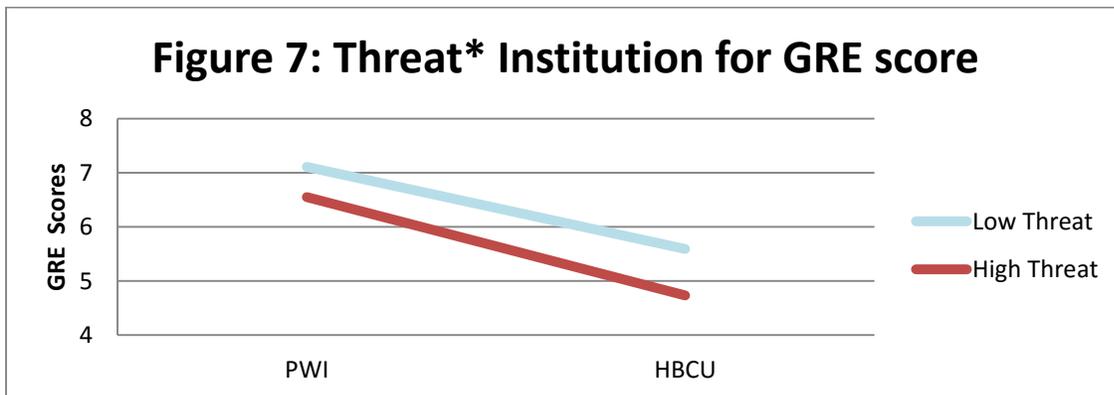
Internalized Identity

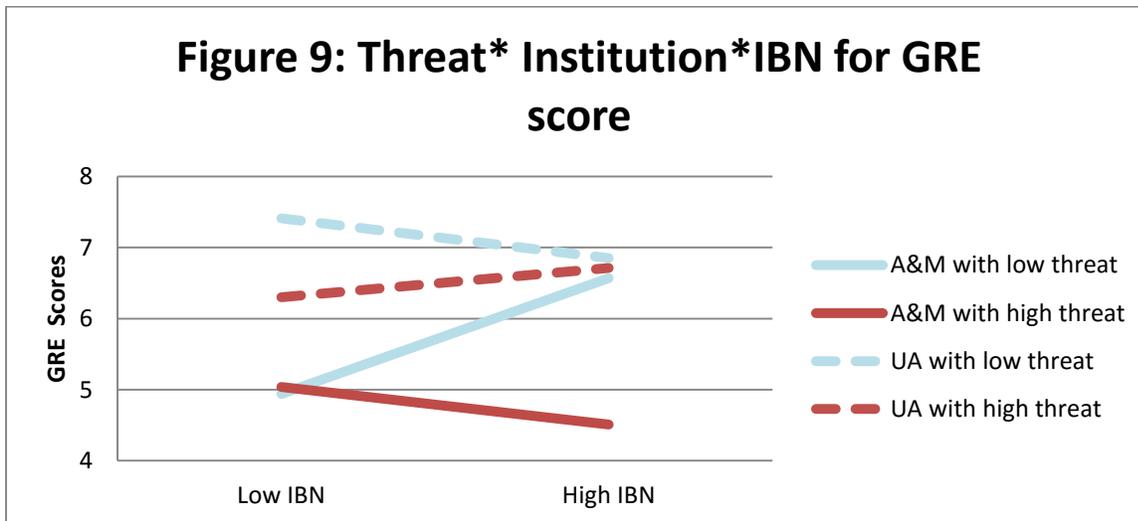
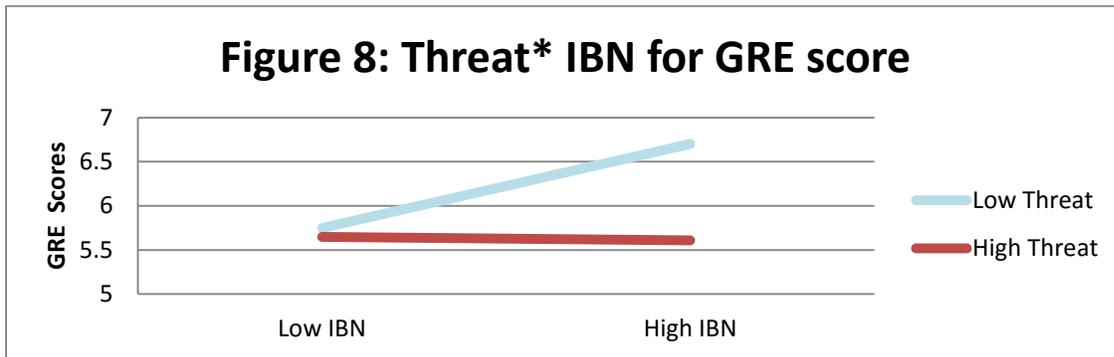
The following 2 subscales of racial identity were engaged in analyses to answer research question 3. The modified version of that question being: “How do internalized attitudes toward identity moderate the effect of stereotype threat on test performance, and do the effects differ for PWI and HBCU students?”

Internalized Black Nationalist (IBN)

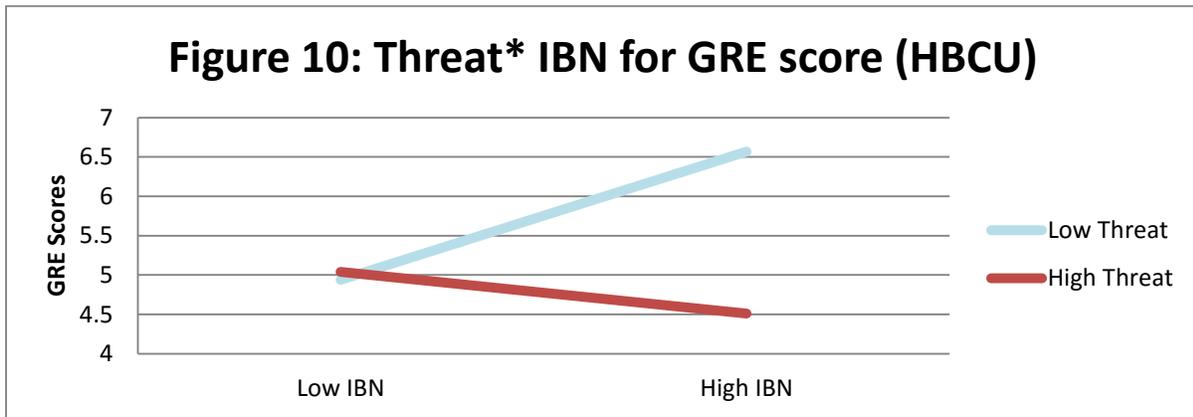
The moderator of Internalized Black Nationalist (IBN) subscale did not produce a significant main effect on GRE performance. There was a significant main effect for institution overall, (PWI, $M = 6.77$, $SD = 2.66$; higher than HBCU, $M = 5.15$, $SD = 2.68$), $F(1, 205) = 5.822$, $p = .017$, partial eta squared = .028. There was no significant main effect for stereotype threat. The 2-

way interaction between institution and stereotype threat was marginally significant, $F(1,205) = 3.004$, $p = .085$, partial eta squared = .014. Within this interaction the threat manipulation had a slightly larger effect on the HBCU students than the PWI students. This interaction is displayed in Figure 7. The 2-way interaction between stereotype threat and IBN was significant, $F(1,205) = 4.091$, $p = .044$, partial eta squared = .020. This interaction is displayed in Figure 8, and it shows that scores were the highest when IBN was high and threat level was low. Scores were similar when IBN was low, regardless of threat level, and a high IBN and a high threat level produced scores similar to low IBN scores. The 2-way interaction between institution and IBN was not significant. Finally, the 3-way interaction between institution, IBN, and stereotype threat was marginally significant, $F(1,205) = 3.735$, $p = .055$, partial eta squared = .018. This interaction is displayed in Figure 9. GRE scores were the highest for PWI students with low IBN during the low threat manipulation. Scores were the lowest for PWI students with low IBN when threat was high. PWI GRE scores were similar for higher IBN scores, regardless of threat level. For HBCU students, threat had an impact for those with high IBN, but not for those with low IBN scores. GRE scores were the lowest when IBN was high and there was a high level of threat. HBCU student scores were the highest when IBN was high and threat was low, and in this condition HBCU student scores rose to levels comparable to PWI students. Overall, there is suggestive evidence that IBN serves as a moderator for the relationship between stereotype threat and GRE test score.





Due to the presence of significant interactions, subsequent ANCOVAs exploring those relationships were run separately for each institution. For HBCU there was a significant main effect for stereotype threat (low threat, $M = 5.59$, $SD = 2.76$; high threat, $M = 4.73$, $SD = 2.56$), $F(1, 114) = 7.563$, $p = .007$, partial eta squared = .062, and a significant interaction between stereotype threat and IBN, $F(1, 114) = 11.280$, $p = .001$, partial eta squared = .090. Within this interaction, scores were similar when IBN was low regardless of threat level. When high IBN was paired with a high threat, scores were at the lowest. However, when threat was low and paired with a high IBN, GRE scores were the highest. This interaction, presented in Figure 10, isolates the bottom half of the three-way interaction shown in Figure 9. This analysis suggests that IBN may have a moderating effect in relation to the HBCU sample.



For the analysis of PWI students alone, there was no main effect for stereotype threat, no main effect of the IBN moderator, and no significant interaction of IBN with stereotype threat. Therefore, IBN does not seem to have a moderating effect in relation to the PWI sample.

Internalized Multiculturalist Inclusion (IMCI)

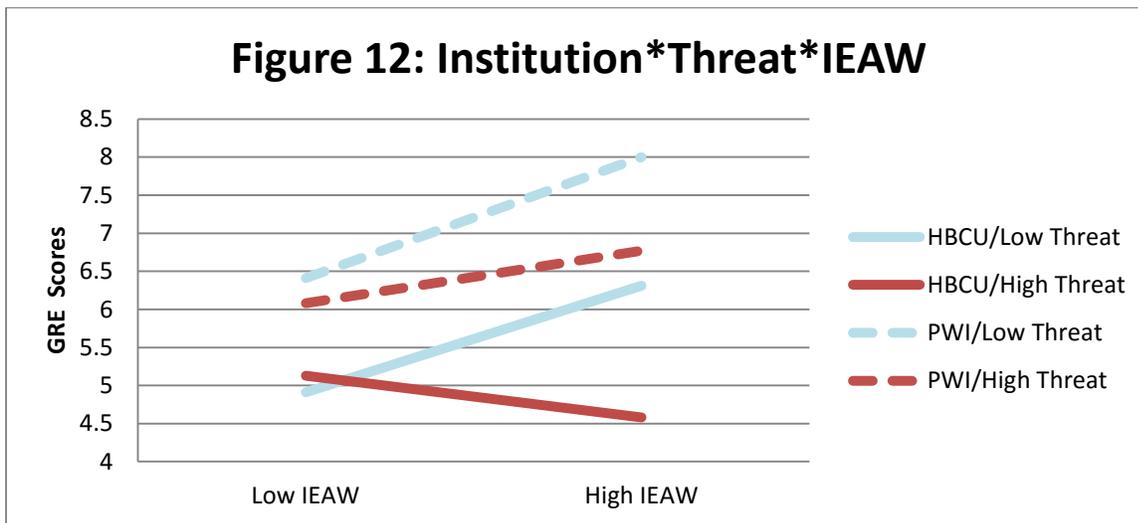
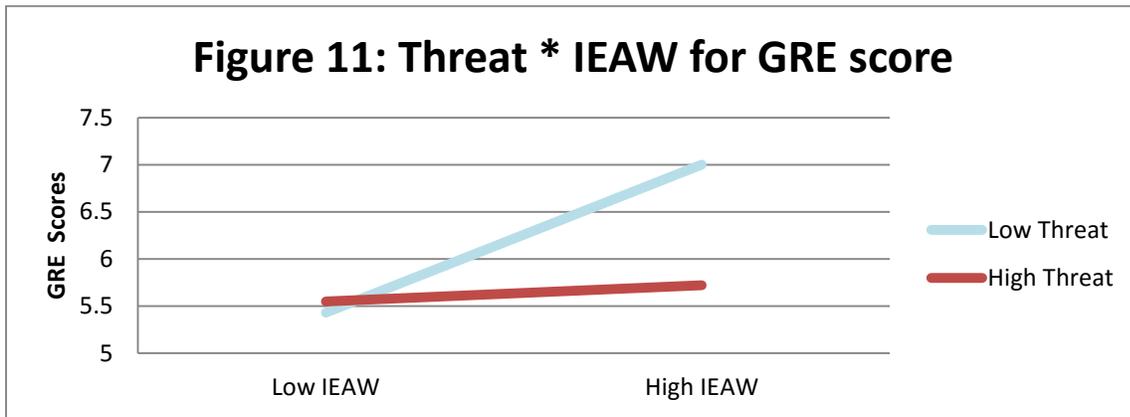
The moderator of Internalized Multiculturalist Inclusion (IMCI) had a significant main effect with lower IMCI related to higher GRE scores, $F(1, 204) = 10.911, p = .001$, partial eta squared = .051. There was a marginally significant main effect for institution (HBCU, $M = 5.22, SD = 2.70$; PWI, $M = 6.79, SD = 2.68$), $F(1, 204) = 2.939, p = .088$, partial eta squared = .014.

There was no significant main effect for stereotype threat, and none of the two-way interactions or the three-way interaction was significant. Thus, there is no evidence of a moderating effect for IMCI.

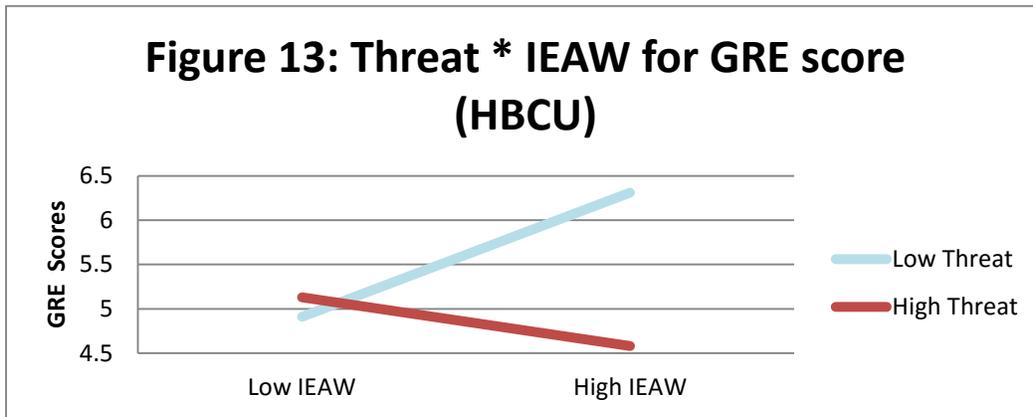
Separate ANCOVAs for each institution showed only a significant effect of the moderator for PWI students and a marginally significant effect for HBCU students. There were no significant effects for stereotype threat or for the interaction of IMCI with threat. Given the results of the ANCOVA analysis for IMCI, it does not seem to serve as a moderator for the relationship between stereotype threat and GRE test scores, but for both institutions, lower IMCI was related to better test performance

Immersion-Emersion Anti-White (IEAW)

The following subscale of racial identity was engaged in analyses to answer research question 3. The modified version of that question being: “How does Immersion-Emersion Anti-White (IEAW) moderate the effect of stereotype threat on test performance, and does this differ for PWI and HBCU students? There were no significant main effects for the moderator Immersion-Emersion Anti-White, for institution, or for stereotype threat. There was no significant interaction between stereotype threat and institution or between institution and IEAW. The 2-way interaction between stereotype threat and IEAW was marginally significant, $F(1, 213) = 3.352, p = .069$, partial eta squared = .015. Within this interaction, when IEAW was low, GRE scores were low regardless of threat level; and GRE scores were similarly low for high IEAW and high threat. However, when IEAW was high and threat level was low, scores were significantly higher. This interaction is presented in Figure 11. The 3-way interaction between institution, IEAW, and stereotype threat was also marginally significant, $F(1, 213) = 2.716, p = .101$, partial eta squared = .013, showing that the 2-way interaction between stereotype threat and IEAW was more evident for HBCU students than PWI students. High IEAW and low threat levels were significantly higher than all other combinations of threat and IEAW and produced the highest scores for both institutions. High levels of IEAW paired with a high threat level produced the lowest score for HBCU students. This interaction is presented in Figure 12. Considering these results, there is some evidence that there is a moderating effect of IEAW on the relationship between stereotype threat and GRE score.



In separate analyses, for HBCU there was no significant main effect for IEAW, but there was a significant main effect for stereotype threat (low stereotype threat, $M = 5.57$, $SD = 2.69$; high stereotype threat, $M = 4.86$, $SD = 2.58$), $F(1, 120) = 5.012$, $p = .027$, partial eta squared = .040, and the 2-way interaction between stereotype threat and IEAW was significant, $F(1, 120) = 6.497$, $p = .012$, partial eta squared = .051. Within this interaction scores were comparable when IEAW was low, and scores were the lowest when IEAW and threat were both high. However, when IEAW was high and threat was low, scores were the highest. This interaction, presented in Figure 13, reiterates the bottom half of the 3-way interaction shown in Figure 12. Thus, it seems that IEAW may have a moderating effect on the relationship of threat and GRE scores for the HBCU sample.



In relation to PWI students, there were no significant main effects for IEAW as a moderator or stereotype threat and also no significant interaction between IEAW and stereotype threat. Therefore, there is no evidence of a moderating effect for IEAW as it relates to PWI.

Other Moderators

The other moderators were used to investigate research question 3: “What processes are moderators of the effect of stereotype threat on test performance, and do they differ for PWI and HBCU students?” In relation to the other three potential moderators of interest, a stereotype threat (high threat/low threat) by institution (HBCU/PWI) analysis of covariance (ANCOVA) with the moderator variable entered along with its interactions was conducted for each moderator. Those results are presented in Tables 15 and 18, and include the means for the interactions between the two levels of threat and the two levels of each moderator, which were created using a median split. As with the previous analyses, the institution variable was parsed out and a separate ANCOVA was run for each institution and presented when there was a significant interaction present. Those results are presented in Tables 16 and 17 as well as in the subsequent text. A Multivariate Analysis of Variance (MANOVA) was also conducted for the congruence variable to test the differences between the two institutions on these measures. Those results are presented in Table 19.

Table 15: Analysis of Covariance Related to Other Moderators (Overall)				
	Effect	Moderator		
		SR	SE	SC
F-Values	Moderators	.002	.937	1.289
	Institution	.058	.929	.155
	Threat	.039	1.564	10.924****
	Institution & Threat	.009	.022	.072
	Threat & Moderator	.015	.761	8.826***
	Institution & Moderator	.140	.066	.274
	Institution/Moderator/Threat	.041	.098	.000
Degrees of Freedom		(1,151)	(1,104)	(1,204)
Overall	M	5.81	6.55	5.95
	SD	2.73	2.75	2.83
HBCU	M	5.23	4.91	5.18
	SD	2.64	2.02	2.65
UA	M	7.00	6.93	6.95
	SD	2.56	2.76	2.75
Low Threat	M	6.14	6.92	6.27
	SD	2.68	2.48	2.76
High Threat	M	5.49	6.26	5.69
	SD	2.76	2.94	2.87
Low Moderator	M	5.96	6.27	5.58
	SD	2.84	2.69	3.02
High Moderator	M	5.67	6.84	6.33
	SD	2.64	2.81	2.59
Low Moderator / Low Threat	M	6.38	6.81	6.10
	SD	2.90	2.43	2.94
Low Moderator / High Threat	M	5.64	5.80	4.94
	SD	2.78	2.85	3.01
High Moderator / Low Threat	M	5.96	7.04	6.51
	SD	2.52	2.58	2.48
High Moderator / High Threat	M	5.32	6.69	6.22
	SD	2.77	3.00	2.66
*p≤.10 **p≤.05 ***p≤.01 ****p≤.001				

Table 16: Analysis of Covariance Related to Other Moderators (HBCU)				
	Effect	Moderator		
		SR	SE	SC
F-Values	Moderators	.140	.762	.237
	Threat	.068	.622	6.957***
	Threat/Moderator	.005	.159	5.612***
Degrees of Freedom		(1, 103)	(1, 17)	(1, 115)
Overall	M	5.23	4.91	5.18
	SD	2.64	2.02	2.65
Low Threat	M	5.53	5.55	5.51
	SD	2.59	1.70	2.70
High Threat	M	4.90	4.20	4.85
	SD	2.68	2.20	2.59
Low Moderator	M	5.65	5.18	5.08
	SD	2.99	1.99	2.71
High Moderator	M	4.88	4.60	5.33
	SD	2.26	2.12	2.59
Low Moderator / Low Threat	M	6.08	5.75	5.58
	SD	3.07	1.91	2.74
Low Moderator /High Threat	M	5.21	3.67	4.37
	SD	2.90	1.53	2.54
High Moderator / Low Threat	M	5.09	5.00	5.31
	SD	2.09	1.00	2.68
High Moderator / High Threat	M	4.62	4.43	5.33
	SD	2.48	2.51	2.59
*p≤.10 **p≤.05 ***p≤.01 ****p≤.001				

Table 17: Analysis of Covariance Related to Other Moderators (PWI)				
	Effect	Moderator		
		SR	SE	SC
F-Values	Moderators	.041	.769	1.120
	Threat	.004	2.846*	4.692**
	Threat & Moderator	.041	2.140	3.582*
Degrees of Freedom		(1,48)	(1,87)	(1,89)
Overall	M	7.00	6.93	6.95
	SD	2.56	2.76	2.75
Low Threat	M	7.81	7.31	7.45
	SD	2.23	2.55	2.45
High Threat	M	6.45	6.65	6.60
	SD	2.66	2.91	2.91
Low Moderator	M	6.48	6.53	6.67
	SD	2.53	2.79	3.41
High Moderator	M	7.65	7.33	7.10
	SD	2.50	2.72	2.32
Low Moderator / Low Threat	M	7.22	7.28	7.60
	SD	2.33	2.54	3.09
Low Moderator / High Threat	M	6.15	6.04	5.89
	SD	2.60	2.88	3.55
High Moderator / Low Threat	M	8.25	7.33	7.35
	SD	2.14	2.61	1.99
High Moderator / High Threat	M	7.00	7.32	6.95
	SD	2.79	2.85	2.53
*p≤.10 **p≤.05 ***p≤.01 ****p≤.001				

	Effect	Moderator and Moderator			
		Social	Belonging	Function	Culture
F-Values	Moderators	1.698	3.373*	.002	1.573
	Institution	6.594***	.166	.216	.121
	Threat	.231	.753	.410	1.116
	Institution & Threat.	1.337	.003	.017	.081
	Threat & Moderator	.192	.479	.159	.781
	Institution & Moderator	3.192*	.738	.189	.818
	Institution/Moderator/Stereotype threat	1.551	.055	.006	.022
Degrees of Freedom		(1,199)	(1, 213)	(1, 215)	(1, 213)
Overall	M	6.16	6.12	6.12	6.12
	SD	2.72	2.70	2.72	2.70
HBCU	M	5.56	5.51	5.52	5.52
	SD	2.67	2.64	2.64	2.64
PWI	M	7.02	7.00	7.02	7.00
	SD	2.60	2.57	2.60	2.57
Low Threat	M	6.16	6.12	6.11	6.12
	SD	2.72	2.70	2.70	2.72
High Threat	M	5.91	5.80	5.78	5.79
	SD	2.85	2.80	2.79	2.80
Low Moderator	M	6.05	5.58	6.06	5.72
	SD	2.80	2.70	3.01	2.72
High Moderator	M	6.02	6.38	5.76	6.29
	SD	2.77	2.76	2.29	2.78
Low Moderator / Low Threat	M	6.19	5.63	6.38	5.82
	SD	2.77	2.56	2.88	2.60
Low Moderator / High Threat	M	5.93	5.55	5.75	5.66
	SD	2.85	2.82	3.12	2.82
High Moderator / Low Threat	M	6.14	6.52	5.66	6.43
	SD	2.69	2.77	2.36	2.79
High Moderator / High Threat	M	5.89	6.18	5.84	6.08
	SD	2.88	2.76	2.25	2.78
MANOVA		15.990****	5.517****	.240	7.041***
*p≤.10 **p≤.05 ***p≤.01 ****p≤.001					

Effect		MANOVA	HBCU	PWI
F-Values	Social	15.990****	M= 48.53	M=44.18
			SD= 8.07	SD=7.25
	Belonging	5.517**	M= 4.85	M=5.37
			SD= 1.71	SD=1.42
	Functionality	.240	M= 5.92	M=6.00
			SD= 1.30	SD=1.16
	Culture	7.041***	M= 6.32	M=7.09
			SD= 2.25	SD=1.81
Degrees of Freedom		(1,204)		
*p≤.10 **p≤.05 ***p≤.01 ****p≤.001				

Self-Regulation

A 2 [stereotype threat (high threat/low threat)] by 2 [institution (HBCU/PWI)] analysis of covariance (ANCOVA) was run in order to test the third hypothesis as it relates to the moderator self-regulation (SR). There were no significant main effects or interactions for the full analysis or when analyses were conducted separately for the two institutions. Thus, there was no evidence to support that self-regulation impacts GRE score directly, nor that it moderates any effects of stereotype threat or institution.

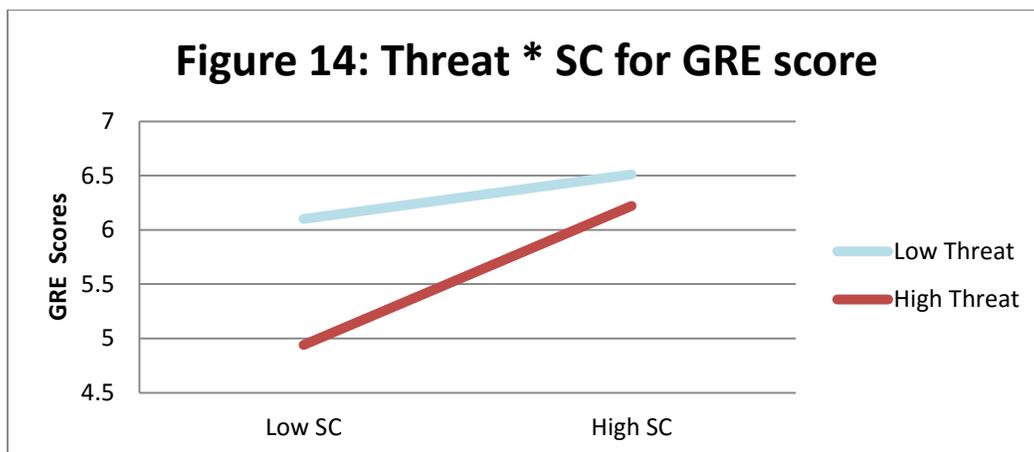
Self-Efficacy

The 2 [stereotype threat (high threat/low threat)] by 2 [institution (HBCU/PWI)] analysis of covariance (ANCOVA) run to test the third research question as it relates to the moderator self-efficacy (SE) revealed no significant main effects or interactions among the variables of interest, and there were no significant effects when separate analyses were conducted for the two institutions. Therefore, no direct effect or moderating effect of SE is suggested within this analysis.

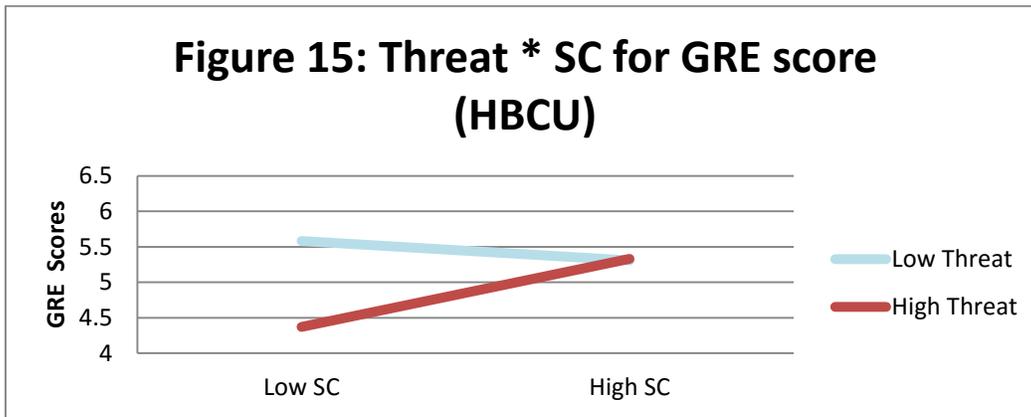
Stigma Consciousness

A 2 [stereotype threat (high threat/low threat)] by 2 [institution (HBCU/PWI)] analysis of covariance (ANCOVA) was used to test the moderating effect of stigma consciousness on the relationship between GRE and stereotype threat. Within this analysis there was no main effect for the moderator of stigma consciousness (SC) and no main effect for institution. There was a significant main effect for stereotype threat (low stereotype threat, $M = 6.27$, $SD = 2.76$; high stereotype threat, $M = 5.69$, $SD = 2.87$), $F(1, 204) = 5.28$, $p = .023$, partial eta squared = .025. There was no significant 2-way interaction between stereotype threat and institution or between institution and SC, and the 3-way interaction was also not significant. The 2-way interaction between stereotype threat and SC was significant, $F(1, 204) = 8.826$, $p = .003$, partial eta squared = .041. Within this interaction, scores were similar when SC was high; however, for individuals with

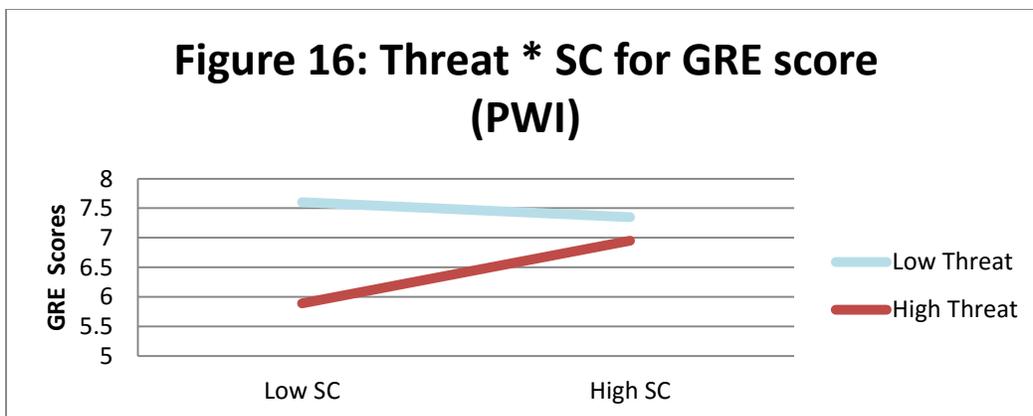
lower levels of SC, stereotype threat influenced their GRE scores. Specifically, for lower levels of SC, when threat was high, GRE scores were lower than when threat was low. This interaction is presented in Figure 14. This analysis suggests that SC serves as a moderator for the relationship between GRE scores and stereotype threat.



In separate analyses by institution, for HBCU, there was no significant main effect for SC. There was a significant main effect for stereotype threat (low stereotype threat, $M = 5.51$, $SD = 2.70$; high stereotype threat, $M = 4.85$, $SD = 2.59$), $F(1, 115) = 6.957$, $p = .010$, partial eta squared = .057, and the 2-way interaction between stereotype threat and SC was significant, $F(1, 115) = 5.612$, $p = .019$, partial eta squared = .047. Within this interaction high SC scores produced the same mid-level GRE scores regardless of threat level. However, scores for low SC with high threat were the lowest scores, while scores with low SC and low threat were the highest. This interaction is presented in Figure 15. Therefore, in relation to HBCU, this analysis provides evidence that SC potentially serves as a moderator for the relation between threat and GRE score.



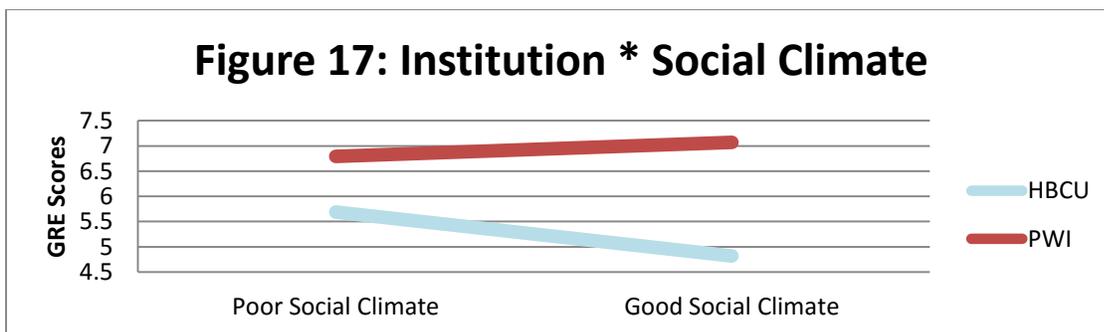
In relation to PWI students there was no significant main effect for SC as a moderator, but there was a significant main effect for stereotype threat (low stereotype threat, $M = 7.45$, $SD = 2.45$; high stereotype threat, $M = 6.60$, $SD = 2.91$), $F(1, 89) = 4.692$, $p = .033$, partial eta squared = .050. The interaction between stereotype threat and SC was marginally significant, $F(1, 89) = 3.582$, $p = .062$, partial eta squared = .039. Within this interaction, displayed in Figure 16, GRE scores for students were similar for high and low threat when SC was high; however when SC was low, scores were significantly higher if threat was low when compared to scores when threat was high. Thus, it seems that SC serves a moderating effect for the relationship between stereotype threat and GRE score. In this case, the pattern of results is the same for both institutions.



Congruence: Student Perceptions of University

Several questions pertaining to institutional environment were asked. Through four 2 (stereotype threat) x 2 (institution) ANCOVAs, similar to the analyses conducted for the other

moderators, four aspects of perceived congruence were assessed to see if there was any significant effect on the relationship between stereotype threat and GRE scores in relation to feelings about congruence. These aspects were perceived social climate, perceived cultural atmosphere, perceived ability to function in the academic arena, and feelings about belonging in the environment. While institution had a significant main effect for social, the only one that had a marginally significant main effect for the actual moderator was the feelings of belonging factor (low sense of belonging, $M=5.80$, $SD=2.80$; high sense of belonging, 6.12 , $SD= 2.70$), $F(1,213) = 3.373$, $p=.68$, partial eta squared=.016. There was also a marginally significant interaction between social climate and institution $F(1,199) = 3.192$, $p=.076$, partial eta squared=.016, graphed in Figure 17. This interaction suggests that a good social climate results in higher GRE scores, with a slightly larger effect for PWI students. There were no other significant main effects or interactions for any of these variables.



To explore possible differences in feelings of congruence between the two institutions, a one-way multivariate analysis of variance (MANOVA) was conducted to test the hypothesis that there would be one or more mean differences between institution type (PWI vs. HBCU) and feelings of congruence. A statistically significant MANOVA effect was obtained, Wilks' Lambda = .861, $F(1, 204) = 8.091$, $p < .000$. Within this MANOVA institution had a statistically significant effect for social climate (HBCU, = 48.53; PWI, 44.28), $F(1, 204) = 15.990$, $p < .000$. Lower scores meant more welcoming suggesting that PWI students believed that their institution was more welcoming to people from diverse backgrounds than HBCU students. Perceived cultural

atmosphere was also significant (PWI, $M=7.00$, $SD= 1.87$; HBCU, $M=6.40$, $SD= 2.26$), $F(1, 204) = 7.041$, $p < .009$. Lower scores indicate higher confidence in the institution capturing African American student experiences within the cultural atmosphere, thus HBCU students felt more confident in the school culture capturing the Black experience. Feelings about belonging in the environment was also significant, (PWI, $M=5.37$, $SD= 1.42$; HBCU, $M=4.84$, $SD= 1.71$) $F(1, 204) = 5.517$, $p < .020$. Lower scores indicate higher sense of belonging. Finally perceived ability to function in the academic arena was not significant, $F(1, 204) = .240$, $p < .625$, suggesting that these students were similar in how well they believe they are doing academically.

Additional Analysis

In order to address the potential effects of other variables included in this research several additional analyses were run.

PANAS

As a manipulation check, the PANAS was used to assess emotional state prior to the threat manipulation and GRE test as well as after the test. If the manipulation check is adequate and the manipulation itself was successful, then the scores on the PANAS would change from time one to time two, with the biggest change occurring for those in a high stereotype threat condition. A 2 institution (PWI/HBCU) x 2 stereotype threat (high/low) x 2 time (time 1/time 2) repeated measures ANOVA for each subset of the PANAS was run. For the positive PANAS there was a significant main effect for time (time 1 $M=32.46$; time 2 $M=29.81$), $F(1, 125) = 10.365$, $p = .002$, partial eta squared = .077. There were no significant interactions between time and institution, time and stereotype threat or time by institution by threat. This suggests that emotional state was less positive after taking the GRE test and other measures than it was before, but this was independent of the stereotype threat condition. There was no significant main effect for time for the negative PANAS. There were also no significant interactions between time and institution, time and threat,

or time by institution by threat. Therefore, as a manipulation check, the PANAS did not reveal differences in emotional state based on the stereotype threat condition. Correlations in Table 5 show that the negative PANAS scores were negatively correlated with GRE scores, but positive PANAS scores were not correlated with GRE performance.

Classification Analysis

There was a concern that individuals may differ on how engrossed they are in the culture of the institution based on how long they had attended the institution. Specifically, a freshman would be less impacted by the University's culture than a senior would and thus have different reactions to stereotype threat effects. A 2x2 ANCOVA between institution and stereotype threat with classification as a moderator was run. This was done in order to see if there was a significant difference based on class level. There were no significant main effects or interactions involving classification. Therefore, it does not seem that classification is a significant factor within the relationship between threat and GRE scores.

Multidimensional Inventory of Black Identity (MIBI)

The MIBI data were not included in this presentation of results, because there were not enough subjects who responded to this scale to conduct any meaningful analyses.

CHAPTER 5: DISCUSSION

Overall, the results of these analyses provide some tentative support for the hypotheses, suggesting that there are differences in how stereotype threat operates in the two institutions of interest. Specifically, there seem to be different moderators that modify the relationships between stereotype threat level and GRE score for students in PWIs compared with students at HBCUs. These relationships modified the effect that stereotype threat had on GRE scores, and although a number of the effects were small and only marginally significant, they exposed some intriguing patterns and meaning for the institutions of interest as well as Blacks in academia at large.

Research Questions One and Two

Research questions one (i.e., How do stereotype threat manipulations impact participant test scores?) and two (i.e., What are the performance outcomes of Black PWI and Black HBCU students who are administered a diagnostic exam under stereotype threat conditions?) were addressed in the same analyses. Initial analyses involving ACT/SAT and GPA suggest a marginally significant interaction between threat and GPA, followed by a marginally significant interaction for PWI students only. There was also a significant main effect for ACT/SAT. This section will discuss the impact of two traditional forms of performance assessment, GPA and ACT/SAT scores. Notorious for being the numbers that can get you into or keep you out of your college of choice, these scores are given the utmost importance in the American educational system. These scores are often used as imperative components of understanding how well a student is perceived to be doing in school (GPA) and predicting how well a student will do in the future (ACT/SAT). Within the analysis, GPA seemed to serve a moderating effect while ACT/SAT seemed to serve only as a covariate. These analyses taken with the ANOVA between threat and GRE score that was not significant helps to answer the first two questions. In regards to the first

question, “How do stereotype threat manipulations impact participant test scores?”; when controlling for ACT, there was no effect for stereotype threat – just the main effect, lower ACT/SAT is related to lower GRE. When the relationship between threat and GRE score is tested with GPA, high levels of threat seem to have a negative effect on GRE scores. However, without the covariate of GPA there is only an institution effect, so no effect of stereotype threat. In regards to question (2) “What are the performance outcomes of Black PWI and Black HBCU students who are administered a diagnostic exam under stereotype threat conditions?” It seems that threat is impactful for PWI students in particular based on these initial analyses. However, further analyses with other covariates suggest that stereotype threat impacts scores for both institutions; however, it sometimes has differential influences based on individual differences (see question 3).

GPA/ACT/SAT

The interaction of GPA with threat level revealed higher scores occurring within the low threat condition paired with a higher GPA (see Figure 1). This is somewhat in line with the initial hypothesis that scores would differ based on threat level, but the inclusion of GPA as a covariate of this relationship lends itself to understanding its complexity. A measure of overall performance in school does speak (at least in part) to the scholastic ability of a student, and thus it makes sense that higher scores would be obtained by those with higher GPAs. However, the fact that these scores are negatively impacted by the introduction of a high stereotype threat environment suggests that a high GPA is not all that is needed to do well on standardized achievement tests. Reminding participants of the stereotypes society has placed on them and their potential for success as an African American seems to be a way to cause a significant decrease in individual performance. Conducting the same analysis for each institution showed that the interaction only held true for the PWI population. While HBCU scores did trend towards this same direction, the difference did not reach the same prominence as it did for PWI students. Thus, the very students who might have potential to go on to graduate school because of higher GPAs are the ones most affected by

stereotype threat. High performing PWI students introduced to a high level of threat had their performance on the GRE questions lowered to the same level as those students who are less successful in the classroom. This is also in line with the hypothesis that PWI students would be impacted by the threat more than HBCU students would be. This suggests that PWI students are particularly vulnerable to this threat in terms of being able to live up to their traditionally high ability to achieve. Through this analysis, one may infer that being in a PWI environment may have some impact in the different malleability of performance for high achieving students (see Figure 2). However, it is important to note that the results yielded from this analysis were marginally significant, thus, further research is necessary in order to substantiate these results.

ACT/SAT acted as a significant covariate in the model, with higher ACT/SAT related to higher GRE score, as expected. The lack of an interaction with stereotype threat indicates it did not seem to have any effect on the relationship between threat and GRE score. This suggests that although ACT/SAT score does predict subsequent scores on GRE, it does not impact the potential effect that stereotype threat has on GRE scores. This is in line with prior research asserting that SAT scores serve as a sufficient covariate in stereotype threat research (Davis, et al., 2006, Steele & Aronson, 1995; Massey & Owens, 2014).

Research Question Three

The third and final question addressed by this analyses was “What processes (e.g., stigma consciousness and racial identity) are moderators of the effect of stereotype threat on test performance, and do they differ for PWI and HBCU students?” The following section explores this question and considers the overall impact of the variables conceptualized as potential moderators in the models. Within the models run for the relevant moderators there were several significant main effects and interactions. The interactions and their potential meaning are discussed in more detail within this section. As hypothesized, racial identity and stigma consciousness were the most influential moderators within the statistical analyses. Both of these moderators engaged in

interesting and complex relationships with stereotype threat and the dependent variable, GRE score. The discussion section follows the same order as the results section, starting off with a discussion of the racial identity measure and its subscales. First the subscales exploring a pre-encounter identity will be discussed followed by a discussion of an internalized identity and then completed with a discussion of immersion/emersion. Following the racial identity section will be a discussion of self-regulation and self-efficacy. The self-variables will be followed up with a discussion of the results related to stigma consciousness and the congruence variables. Lastly, a discussion of the results of additional analyses involving PANAS and classification.

Racial Identity

Racial identity did seem to be impactful in the relationship between threat and subsequent GRE score with each subscale of racial identity operating in distinctly different ways. This is in line with previous research asserting that this relationship is not only meaningful, but also imperative to understanding the role of stereotype threat (Davis, et al., 2006). However, as is evident within these results, the literature on how racial identity actually impacts this relationship is very complex. While some researchers initially thought about racial identity as a buffer (Oyserman, Harrison, & Bybee, 2001), others have more recently asserted that whether racial identity buffers against or amplifies stereotype threat is dependent on numerous factors (Davis, et al., 2006). These factors include the specific subscale of the CRIS that is being addressed, with scales associated with higher levels on pre-encounter stages providing amplification of threat, while higher levels of internalizing factors usually buffer against threat (Cross & Fhagen-Smith 1996; Davis, et al., 2006). However, this assertion is largely speculative, mostly drawing on Cross's earliest ideas surrounding research related to the subscales of the CRIS. The research on the relationship between stereotype threat and subsequent GRE score is still relatively new, with very limited systematic engagement of the subscales in analyses. This will be discussed in further detail in the subsequent discussion involving racial identity.

Pre-Encounter Assimilation (PA)

The subscale for Pre-Encounter Assimilation (PA) measures whether an individual has an American orientation or an African American orientation in regards to their view of themselves and their world. There was a significant main effect for PA with higher PA resulting in higher GRE scores in general. This suggests that the ability to assimilate into mainstream American society can aid in boosting scores on standardized testing. There was also a main effect for threat, thus, when controlling for level of PA, low threat leads to higher GRE scores. Therefore, higher PA leads to higher GRE scores; but also low threat leads to higher GRE over and above the effect of PA. There was also a significant interaction between institution and PA. This interaction suggests that PA level was not a determinant for scores for HBCU students; however, for PWI students, high PA resulted in higher GRE scores. Given the racial demographics of a PWI, being able to disassociate the self from a marginalized or minority group identity and associate the self with the American identity would seem to be beneficial. Being able to relate to those in the majority of individuals around you would seem to be useful for any student. However, the main difference between these two institutions of interest is that at one, those individuals are European American (PWI), and at the other they are African American (HBCU). Given these results PA seems to buffer against stereotype threat for PWI students.

Pre-Encounter Mis-education (PM)

There was a significant main effect for PM, however, the direction of the means are counterintuitive to what was expected. The GRE scores for low PM individuals were lower than the high PM GRE scores. This seems counterintuitive because PM measures the belief in the negative stereotypes associated with Blacks, so it would seem that high levels of this would result in low scores. However, there could be an additional mechanism of feeling like the exception to the rule or a disassociation from a Black identity that contributes to allowing these individuals to buy into these stereotypical beliefs whilst believing they are exempt from the stereotype. This harkens

back to the early ideas surrounding mis-education presented in the seminal 1990 work by Carter Woodson which asserts that on occasion, the best and the brightest of those who are taught to admire the out-group and despise the in-group and by extension disassociate the self with Blackness (Woodson, 1990). More recently, Schmader's research suggested that greater identification with in-group results in greater susceptibility to threat, while lower group identification results in less susceptibility to the threat (Schmader, 2002). Thus, belief in negative stereotypes may not equate to beliefs of negativity about yourself if you disassociate yourself from the target group. There were no significant interactions for this variable. This is also contrary to expectations as it would seem that level of belief in negative stereotypes would be impacted by a high threat manipulation which reinforces that stereotype. While interesting, these results should be considered with caution given the marginal effects associated with this particular analysis.

Pre-Encounter Self-Hatred (PSH)

.... The more self-hatred a participant had, the higher the scores on the GRE, and this interacted with institution such that it was primarily true for HBCU students. This was an unexpected finding, because it would be more expected that positive racial ideals (lower PSH scores) would enhance GRE test scores and higher PSH would cause a decrease in the scores on the GRE (Davis, et al., 2006); however, this was not the case. Thus, it may be that individuals who possess higher levels of self-hatred are not vulnerable to the specific conditions of the testing scenario, but are somehow motivated to outperform those with lower PSH. This surprising relation between PSH and academic performance was associated with an initial marginally significant interaction between institution and PSH; however, when the analyses were done separately, the HBCU yielded a significant result. This finding also seems to support the literature associated with the idea of disidentification. A product of disengagement, disidentification is a negative ramification of the distancing of the self from the domain as a matter of self-worth and self-esteem preservation (i.e., disengagement) (Crocker, Major, &

Steele, 1998; Major, Spencer, Schmader, Wolfe, & Crocker, 1998). Disengagement can be positive and protective in a context in which negative feelings may be invoked by potential unsavory feedback (Major et al. 1998; Steele & Nussbaum, 2007). However, disengagement can also be negative and detrimental when it is used as a long-term coping strategy, and the individual either distances himself or herself from the domain or detaches the domain from the identity (Steele, Spencer & Aronson., 2002). Specifically, disidentification research has suggested that Black students who highly identified with academics either disidentified with Blackness and were more likely to leave school (Osborne & Walker, 2006) or continued to identify with both the domain and Blackness and experienced ostracism from the peer-group (Fryer, 2006; Zirkel, 2004). However, these individuals in this sample seemed to disidentify and do better and thus, this analysis definitely warrants additional exploration in future research. These results suggests that PSH may buffer against stereotype threat, particularly in HBCU students.

Internalized Black Nationalist (IBN)

IBN seemed to be one of the most meaningful moderators among the racial identity subscales. The first interaction present within the models run for IBN was the marginally significant interaction between institution and stereotype threat. The increase of GRE scores with the decrease of threat was present at both institutions, but slightly stronger at HBCU. This was in line with the initial hypothesis which predicted that scores would be lower with the increase of threat. However, this was paired with a marginal effect and should thus be considered with that in mind. The second interaction present within the models run for IBN was the significant interaction between IBN and stereotype threat (See Figure 4). This interaction shows scores being quite similar regardless of threat level when IBN is low; however, when IBN is high and threat is low, scores spike. This is in line with the initial hypothesis and the presence of the third interaction for IBN sheds some light on what may actually be occurring within the models. Within the three way

interaction for IBN (see Figure 5), scores follow vastly different patterns based on institution. While PWI scores were always higher than scores for HBCU, the scores for both institutions seemed somewhat malleable based on levels of threat and IBN. For HBCU students it seemed that low IBN impacted scores similarly despite threat level. However, high IBN level impacted scores in a vastly different manner dependent on threat level, with the lowest scores for these students occurring in a high threat and high IBN condition, and the highest scores for these students being in the low threat and high IBN condition. The internalized Black Nationalist or IBN subscale of the racial identity model measures how pro Black or Afrocentric an individual is and how dedicated the individual is to the upliftment of Black people as a whole. Globally, apart from the scale, Black nationalism is usually defined as an ideology that seeks to elevate the presence of Black pride, self-reliance, self-determination, and to some degree, Black independence within (possibly apart from) this nation (Brown & Shaw, 2002; Carey, 2013). Therefore, with the definition of IBN as is stated in the CRIS, as well as its association with the global definition of Black Nationalism, the interactions make sense. For PWI students who are pursuing academic success in a predominantly white environment, when IBN is high there is little difference in GRE scores. When IBN is low and threat is high, scores for PWI students are the lowest. Scores are the highest when IBN is low and threat is low as well. This suggests that when IBN is high, threat is irrelevant to outcomes; when IBN is low, the threat level affects performance in expected ways. Individuals with high IBN may be more sensitive to threat level in the HBCU context because of the lack of exposure to an environment that visually brings question to their ability based on racial terms. While it may be discussed, there is little opportunity for these individuals to be faced with these issues in a manner that actually questions their ability due to race within the HBCU environment. When that challenge came in the high threat condition, their performance was greatly reduced. Thus, these results suggests that IBN amplifies stereotype threat in an HBCU environment.

Thus, the high threat level for PWI students is the least detrimental when IBN is high, therefore suggesting that coping with high threat may be easier when a pro Black ideology is carried at a predominantly white environment. For students at HBCU, IBN seems to serve a vastly different purpose, having a converse and larger effect on GRE score compared to students at PWI. These students significantly closed the gap in scores with PWI students when possessing high IBN and being exposed to a low threat condition. But the presence of high stereotype threat dramatically reduced the performance of those higher in IBN. Separate ANCOVAs for each institution were then conducted in order to better understand the role of IBN. There was no significant moderating effect for PWI students within the separate ANCOVA, however, for HBCU students the aforementioned relationship held true.

Internalized Multiculturalist Inclusion (IMCI)

The Internalization Multiculturalist Inclusion subscale measures openness to allies from other subgroups (e.g., lesbians and well-informed Whites) as well as being engaged in fighting for, or at minimum, aware of their respective struggles (Cross & Vandiver, 2001). There was a significant main effect for this variable with lower levels of IMCI resulting in higher GRE scores. This suggests that the ability to be inclusive of others as well as cognizant of their respective plights results in a lower score on the GRE. This is contrary to prior research which suggests that higher levels of internalized ideas pertaining to race would lead to higher GRE scores (Cross, 1991; Davis, et al., 2006). According to prior research, high IMCI should lead to a better ability to overcome the myth of Black inferiority; however, a lot of the research surrounding this is speculative, with limited investigation into the specifics of how IMCI operates with stereotype threat. Within this study the opposite is true, with low IMCI yielding high GRE scores. This result may allude to the possibility that recognizing disparities for not only Blacks, but women and other groups as well, may exacerbate the issues surrounding academic performance regardless of additional stereotype threat cues. Thus, low IMCI may be more of a buffer because the activation

of the myth of Black inferiority does not also activate the myths surrounding the intelligence of other groups. This variable did not contain a significant interaction, which is not surprising. First, in relation to institution there does not seem to be a reason to assume that students at either HBCUs or PWIs would be more or less opposed to engaging with allies of other social groups than students at the other type of institution. Perhaps, if this variable assessed the willingness to engage European Americans exclusively there may be some expectation that some differences would emerge. However, since this subscale looks at a global inclusion of race, ethnicity, sexual orientation, and other like-minded groups, this is not a reasonable expectation to have. Secondly, the ability to empathize with other oppressed groups or engage other groups in issues surrounding the Black experience does not seem to be pertinent in relation to the experience of stereotype threat. Thus, there is no reasonable means to assume that this variable will have an influence on a relationship involving threat manipulation.

Immersion-Emersion Anti-White (IEAW)

The IEAW variable presented some intriguing results with higher GRE scores being present when threat was low and IEAW was high. This is interesting with the pro Black and anti-white sentiments that are associated with this measure, and is opposing some of the research that would suggest that individuals with high IEAW would be more anxious and stressed (Davis, Aronson & Salinas, 2006; Parham & Helms, 1985). Instead, they appear to be more motivated or more relaxed, especially under low threat, and thus able to perform at a higher level. This interaction effect was similar to the IBN subscale, both in the pattern and in that it was significant only for the HBCU participants. However, the IEAW variable contained several marginally significant results and these should be considered in relation to the interpretation.

Summary of Racial Identity

Overall these results suggest that there is some worth in exploring the subscales related to the CRIS to address the impact of racial identity on the effects of stereotype threat. Specifically,

the data suggest a number of potential impacts in relation to pre-encounter attitudes which address assimilation, internalized attitudes which address Black Nationalism and immersion-emersion anti-white attitudes. There seem to be differences in which particular measures are impactful as well as the direction of this impact based on institution type. However, more research is needed to further explore this, especially in relation to the marginally significant effects that were present.

Other Moderators

Self-Regulation and Self-Efficacy

Neither self-regulation nor self-efficacy served as a significant moderator for the relationship between stereotype threat and GRE scores. This is contrary to prior research which suggests that self-perceptions and regulatory processes should aid in the ability to overcome high levels of stereotype threat. However, there is also some research suggesting that self-efficacy is either ineffective as a moderator for threat or needs to be analyzed in a different manner than it has in the past (Chung, Ehrhart, Ehrhart, Hatrup, & Solamon, 2010). The research surrounding self-efficacy has been somewhat mixed with some researchers suggesting that it does impact the relationship (Massey, Charles, Lundy, & Fischer, 2003; Thoman, Smith, Brown, Chase, & Lee, 2013), while some others do not (Spencer, Steele, and Quinn, 1999). However, most of the research does not provide sufficient evidence to suggest that measures of self-efficacy or self-regulation should be employed as a staple in stereotype threat research. The current study does not lend support to their role in reactions to stereotype threat.

Stigma Consciousness

The significant interaction between stigma consciousness and stereotype threat was the most intriguing part of the analysis for this moderator. Low SC levels were the most impacted by high stereotype threat, resulting in the lowest GRE. This is in line with the initial hypothesis that stigma consciousness will serve as a moderator for the relationship between stereotype threat and

test outcome. Thus, because of the nature of stigma consciousness this relationship seems to assert that having low stigma consciousness that is, not being fixated on the stereotypes about your in-group, may cause vulnerability to stereotype threat. Conversely, high stigma consciousness may act as a buffer against the negative consequences pertaining to stereotype threat and its impact on the test scores of African American students. This relationship held true regardless of institutional type, with PWI and HBCU both having a similar relationship with SC. This relationship is contrary to some prior research suggesting that high stigma conscious individuals would be the most susceptible to stereotype threat because they are so hyper-vigilant about these stereotypes (Brown & Lee, 2005; Brown & Pinel, 2003). However, this concept has not been thoroughly investigated enough to say that this is indeed the relationship that SC and stereotype threat engage with each other. The current research could be a catalyst for further investigation into under what conditions is high SC a buffer against stereotype threat and under what conditions does it make individuals more susceptible to stereotype threat. The results of the current research suggest that the influence of SC is situation specific and thus more research is necessary to discover which particular situations produce which type of effect.

Congruence: Student Perceptions of University

Only sense of belonging seemed to serve as a sufficient moderator, suggesting that the perceived sense of belonging does predict GRE scores. However, since there is no interaction with stereotype threat, sense of belonging does not impact the potential effect that stereotype threat has on GRE scores. Also, there was a marginally significant interaction between institution and social climate; however, this relationship was minimal at best. Since there were minimal effects for these measures, additional analyses comparing the institutions were conducted. Within this congruence variable it seems that HBCU students perceived themselves to be more congruent with the academic environment than students at PWI. These students stated that they perceived their institution as more culturally representative and perceived themselves as belonging more to the

institution and PWI students reported a better social climate. There was no difference for perceived ability to function academically between these two institutions. This suggests that there is some difference in how integrated the PWI and HBCU students feel within the institution that they attend.

Additional Analyses

PANAS Manipulation Check

Within the PANAS manipulation check, time in relation to the positive PANAS was significant in the analysis, indicating that participants became less positive after the manipulation and GRE test; however, there was no difference between the high and low threat conditions. Therefore, this suggests that either the manipulation check was not sensitive enough or linked closely enough with the manipulation, or that the manipulation of stereotype threat itself was not strong enough to cause a differential effect in the two conditions. It is believed that the former explanation was true because of the numerous significant effects and interactions that involved stereotype threat.

Classification

Although student classification did not have any significant main effects or interactions, this could possibly have been due to the time of year data were collected. The study was conducted in March 2015, which, for most freshmen, would be at least the second semester they had attended the institution of interest. Thus, it would seem that if there was something different about the way that individuals are indoctrinated into the campus climate, it might have already begun to take effect by the time of data collection.

General Discussion

The results of the experiment presented in this dissertation indicate that several factors play an important role in how stereotype threat influences performance on standardized testing. Within

the analyses there is evidence suggesting that, when paired with certain moderators, stereotype threat not only impacts GRE score (question one), but does so differentially for students depending on the type of institution (PWI or HBCU) they attend (question two). Also, the data imply that GPA serves as a moderator for the relationship between threat and GRE score and ACT/SAT serves only as a covariate for GRE performance. There is also evidence suggesting that some aspects of racial identity and stigma consciousness are significant moderators for the relationship between stereotype threat and GRE score (question three). There was no evidence supporting self-regulation or self-efficacy as moderators. The PANAS as a manipulation check did not seem to be effective, nor did the attempt to detect differences based on classification. There was evidence that there were different levels of perceived congruence based on institutional affiliation, but these did not moderate the effect of stereotype threat. Thus, overall there seems to be evidence that the impact of stereotype threat is not a straightforward concept, but a complex and multifaceted issue. Further research is needed to understand the mechanism(s) underlying stereotype threat as well as the individual differences or other mechanism(s) that buffer against or amplify the phenomenon. Also, additional research is needed pertaining to why HBCUs are so successful at producing Black professionals despite limited resources. Overall, HBCU students did not appear to be protected from the effects of stereotype threat. Although this research does show some differences, there is minimal evidence about what is driving those differences and when these differences lead to post graduate success.

CHAPTER 6: IMPLICATIONS AND FUTURE DIRECTIONS

Overall

The results of this research have several important possible implications. First, an understanding of what mechanisms (e.g., stigma consciousness) outside of typical measures of performance (e.g., GPA) influence testing scores when stereotype threat is heightened allows for targeted interventions. Investigating plausible differences between students at HBCUs and their PWI counterparts and what variables moderate their ability to overcome stereotype threat, will allow both types of institutions to construct unique strategies to improve those mechanisms in their students. Interventions and organizations that are designed to improve minority student outcomes can address these issues in a more direct manner based on the makeup of the specific institution of interest.

GPA/ACT/SAT

How to appropriately utilize GPA and ACT/SAT in stereotype threat research is still being debated. There has also been recent research that discredits the use of ACT/SAT and other covariates that may already have a robust relationship with the GRE score as improper and there have been calls for its eradication in stereotype threat research (Wicherts, 2005). The controversy surrounding the usage of ACT/SAT as a covariate has yet to be settled, and thus, it is best to investigate it further at a later date (Sackett, Hardison, & Cullen, 2004). Also, other studies use the actual score on the ACT/SAT as the outcome variable with other variables (e.g., anxiety) serving as a covariate (Hannon, 2012). Future research should look at other avenues for the usage of GPA and ACT/SAT, specifically looking at some of the variables that influence stereotype threat and seeing their subsequent influence on those aforementioned variables. This has been done in some

respect in recent work by stereotype threat researchers who use GPA or SAT as outcome variables (Hannon, 2012).

Racial Identity

Overall the analyses suggest that the subcomponents of racial identity as expressed in the CRIS are meaningful in relation to threat susceptibility. Thus, it seems imperative that future research engages these subcomponents to discover which subcomponents buffer and which amplify said threat. These results provide a base for future analyses into how and when certain subscales of the CRIS impact the effectiveness of stereotype threat on subsequent performance. Based on the above results there are vast differences based on the particular subcomponent of interest. Also, due to some of the findings that were contrary to what was expected based on prior research, this study suggests that more research is needed. The presence of several marginally significant results, indicates that more research with an increased sample size is warranted. More specific implications are addressed for IBN, IEAW and Pre-Encounter variables in the section below.

Internalization versus Pre-Encounter Stages

Overall, our research seems to support prior research suggesting that pre-encounter stages would impact stereotype threat in ways that are divergent with how internalization stages impact scores (Cross & Fhagen-Smith 1996; Davis, et. al., 2006). While the internalization components do seem to provide a buffer as proposed by this research, the pre-encounter stages seem to differ in ability to buffer or amplify within these analyses. Thus, it is reasonable to assert that future research should delve further into the amplification vs. buffer debate to uncover specific factors that contribute to when one is occurring and the other is not. Thus, future research should delve more deeply into the racial identity subscales. Specifically, this research should unpack the meaningfulness of individual subscales for the Cross racial identity model and how they behave

differently for students at each type of institution (i.e., PWI and HBCU). Specifically, evidence from this dissertation suggests further investigation of certain variables and their impact. These are discussed below.

Pre-Encounter Assimilation and Pre-Encounter Mis-education

Future research should evaluate whether individuals with high PA and high PM have different outcomes than those with both low PA and low PM. Specifically, those with a high PA and PM would have a greater association with an American identity than an African American identity (PA) and possess belief in negative stereotypes toward African Americans (PM). However, since these individuals have low association with a Black identity, these negative stereotypes should amplify performance in a manner consistent with stereotype lift sometimes noticed in White students in stereotype threat research. Traditionally, white students experience stereotype lift due to the downward comparisons between themselves and those perceived to be less academically equipped (Walton & Cohen, 2003). It would be meaningful to see if African Americans who disassociate with being African American also experience this lift. Conversely, individuals with low PA and low PM would have a higher identification with an African American identity and a low belief in negative stereotypes associated with Blackness. Thus, these individuals would not be impacted by the threat because they do not associate Blackness or themselves with negativity. Therefore, having low PA and low PM should be a buffer for both of these aforementioned groups. For the two other groups of interest (i.e., high PA and low PM; low PA and high PM) there should be either no impact or an amplifying effect of PA and PM for stereotype threat. Specifically, those with high PA and low PM should not have an effect on threat, because, while they do not associate with Blackness, they also do not subscribe to the negative stereotypes surrounding Black people and thus should be unaffected. Finally, for those who possess a low PA and high PM, these variables should have an amplifying effect on threat, because these individuals not only highly identify with being African American; they also believe the negative stereotypes associated with

being African American. Similar analyses involving PSH should also be attempted with both PA and PM, as well as subsequent engagement of all three variables of interest to address possible relationships between them.

Internalized Black Nationalist (IBN)

Overall, high IBN seemed to buffer against threat differently depending on the institution type. Generally speaking, most people analyze IBN on its own without much emphasis on the type of Black nationalists that the participants are. However, prior research suggests that within the definition of Black Nationalist are two key strains of nationalist thought (Brown & Shaw, 2002; Carey, 2013). These strains are community and separatist nationalism. Community nationalism refers to the attempt to gain control of African American resources in order to uplift, preserve and enrich the Black community by working within the system. Separatist nationalism is the idea that Blacks should reject the system as a whole and create their own. Given the nature of the racial makeup of PWIs (mostly white) and HBCUs (mostly Black), there is reason to believe that these two subsets of nationalist identity would operate differently based on institution of interest. More specifically, separatist nationalism may be more beneficial for HBCU students due to the fact that HBCUs are more likely to be largely independent of European American influence, something characteristic of a separatist nationalist identity. Furthermore, a community nationalism approach may be more beneficial for students at a PWI, because they would be more prone to trying to change the system from within. Thus, parsing apart the type of Black Nationalist an individual is may result in a clearer picture pertaining to the potential buffering effects of IBN.

Immersion-Emersion Anti-White (IEAW)

Similar to a high IBN, high IEAW resulted in higher scores when threat was low. However, when IEAW and threat were both high, scores were either the same or lower than those associated with low threat. Thus, it may be worth separating the immersion and emersion scales in a manner

that allows researchers to see if there is a difference in these mechanisms and the ability to buffer or amplify threat level. Specifically, having a high level of IEAW is characterized by both being extremely engrossed in Black culture, and subsequently also being opposed to all things European American or mainstream. Thus, it may be useful to see if exploring a Pro Black ideology in relation to the immersion influences threat in a manner differently than a rejection of European American culture in a manner associated with emersion.

Other Moderators

Self-efficacy

Aronson and Inzlicht (2004) found that African Americans who were vulnerable to stereotypes had stronger fluctuations of self-efficacy than African Americans who were less vulnerable to stereotypes. Thus, it would seem imperative to conduct research that engages both stigma consciousness and self-efficacy to see if there is some relationship in the stability of self-efficacy and the level of stigma consciousness. Further research should probably focus more on areas related to working memory and anxiety in order to find moderators more meaningful than mechanisms related to self-perceptions (Johns, Inzlicht, & Schmader, 2008).

Stigma Consciousness

Based on this research stigma consciousness should be further investigated in order to decipher why and under what specific circumstances it serves as a buffer.

Congruence: Student Perceptions of University

The differences between the two institutions based on congruence suggests a need to further investigate institutional factors and what they mean in a broader context outside of just threat susceptibility. Variables such as future goals, achievement motivation and academic efficacy should be engaged to determine the nature and congruence of these different perceptions.

Additional Analyses

Classification

Due to the lack of difference based on classification, there is some evidence for the need for alternative data collection methods. Specifically, it seems that the point of the academic year at which data were collected was too late to capture students before they have been indoctrinated with the culture of their respective campuses. In the future, data should be collected at the start of the fall semester to avoid too much exposure to the campus culture. This may allow the researcher to detect differences difference across class levels. Also, if there is the ability to recruit individuals in high school and then follow them from freshman to senior year, this would be the most ideal way to collect data. This way is ideal because it would allow researchers to investigate the differential impact of being at a PWI or a HBCU over time.

Institutional Differences and Intersectionality

One avenue of interest would be engaging multiple sites and institutions and having both public and private institutions as sites. Future research should also look specifically at the interaction of race and gender to see if the way stereotype threat operates differs in these groups. Specifically, due to the success of female-serving institutions, and in particular Black female-serving institutions, further investigation into these institutions is warranted to uncover the mechanisms driving this success. It is “difficult to separate race from class, from sexual oppression because in our lives they are most often experienced simultaneously” (Smith, 1989). The unique pressure of being a Black woman in a society that devalues both of these identities forces Black women to occupy a space that often goes unaccounted for within the academy. Although the field of Psychology and other likeminded sciences have begun to think about women and minorities as important subjects of study, the study of minority women is still severely lacking. This is true even for research such as stereotype threat in which the main foci of study are minorities and women.

Despite overwhelming evidence that stereotype threat can drastically change test performance in both women and Blacks, there seems to be no initiative to uncover what this means for Black women. These future projects should seek to place Black women in the center in order to uncover the impact of stereotype threat on this particular population. While there is immense research suggesting stereotype threat is an issue faced by both women and Blacks, research which explores the prevalence of stereotype threat at the intersection of these two identities is sparse.

CHAPTER 7: LIMITATIONS

While this research yielded a number of interesting findings, it was not without some limitations. These limitations will be addressed in the following section to fully inform the reader about some of the things that should be addressed before attempts at replication.

Recruitment and Response Rate

Recruitment efforts were an area that presented unanticipated challenges and introduced limitations. Initially most participants were expected to be recruited from advertisements for GRE preparation sessions. This was intended to obtain a sample of students who were actually invested in doing well. While advertisements which specifically targeted students who desired to take the actual GRE were posted, none of the participants were recruited through these means. Since this was not a successful recruitment method, the majority of participants were recruited through classroom visits.

Overall, while more than the desired number of students was recruited, many did not respond to the survey in a manner that was complete enough to include them in all of the analyses. Thus, it was decided to include in the discussion and interpretation any main effects or interactions that at least met marginal significance. It is possible that if more surveys had been completed in their entirety, the marginal results would have continued to trend toward significance. There was an exceptionally low response rate to the posttest measures, and thus there were certain variables that could not be analyzed. Future studies should utilize a recruitment mechanism that makes students more invested in the study in a way that would ensure greater follow-up (e.g., pay or course credit).

Differences in the Samples

While measures were taken to try to make the two samples of interest as similar as possible, save the racial makeup and history of the institutions, there remained some differences. These differences were either beyond the investigator's control or occurred due to the availability (or lack thereof) of certain demographics within the pool of obtainable subjects. One specific difference is that the HBCU sample is older and possibly more mature than the PWI sample which is much heavier on freshmen and sophomores. This also might have affected the ability to detect differences across student classification levels.

GPA/ACT/SAT

The ACT/SAT variable was not available for both of the institutional groups and thus may have been a more meaningful variable if access to scores had been provided at both institutions. Thus it was not possible to determine if this would serve as a significant factor for the HBCU institution or if there were any interactions involving institutions. Also, GPA was only available for about 55% of the participants; thus, while the analyses suggest a moderating effect, there was a significant drop in the number of participants included in the analysis involving GPA.

PANAS Manipulation Check

Within the manipulation check there was only a significant effect for the positive PANAS, with higher scores present for time 1 over time 2. Since everyone took all of the measures, just in different orders, it is reasonable to expect that all participants would have a decrease in positive emotions after taking the GRE questions. Thus, in future studies, there should be a manipulation check in the middle of the study, closer to the actual manipulation, and again at the end. Additionally, a different measure of stress and anxiety caused by the threat manipulation may be necessary to detect differences between the groups.

Manipulation

While previous research asserts that stereotype threat is fairly easy to produce and manipulate, the current data suggest that a stronger manipulation of stereotype threat is warranted. Due to the less than desirable effect of the threat manipulation, marginally significant effects were utilized in addition to significant effects to understand the data. Future research may need to use more participants as well as a stronger manipulation of stereotype threat (e.g., white proctor or manipulation of racial composition of the testing environment) in order to obtain results that reach statistical reliability.

Institutional Differences

Only one institution of each type was included in the current study. Within both institutions there is rich racialized history and also an intriguing departure from that history and tradition. At the PWI used in this research there is a history of resistance toward integration that has forever marred the image of this institution. However, this turbulent history has served as a catalyst for numerous programs and efforts to recruit and retain minority students. These initiatives, which specifically target African American students, may cause the PWI chosen to be a less than representative PWI site. The HBCU used in this study is an institution that was originally founded for Black students with limited or no access to institutions such as the PWI included in this study. However, in recent years the number of white student enrollment has risen. In fact, within all of the classes in which data were collected, at least one white student was present. For this and other reasons, the HBCU used might not be representative of most HBCUs. Therefore, it would be essential to collect data across several PWI and HBCU sites, including both public and private institutions of varying sizes, to monitor not only racial composition, but also racial engagement of African American students, as well as other institutional characteristics, and to assess level of

susceptibility to threat with this in mind. Further analyses of some of the background variables collected within this dissertation will be conducted in order to explore some of these possibilities.

CHAPTER 8: CONCLUSION

Through this research it seems that institution type does impact how susceptible an individual is to threat, as well as the degree to which other factors enhance this threat within different academic environments. This research is meaningful due to its possible impact on the future of diversity within professional environments. It is true that as long as negative stereotypes surrounding the intellectual ability of African Americans exist, these individuals will be at risk for stereotype threat. However, the extent to which specific internal mechanisms enhance or exacerbate the role of threat on performance seems to vary based on several factors. Thus, uncovering some of the mechanisms associated with buffering against this phenomenon, as well as those that amplify it, can inform institutions and people about what to promote and what to avoid. Therefore, while restructuring the sociocultural environment in which individuals learn so as to reduce the frequency with which stereotype threat occurs (Steele, 1997) is important; other measures also must be taken. It is necessary to understand how individuals successfully negotiate negative stereotypes when they are invoked. Therefore, it would be useful to draw from what works best at both institutions and engage them both in a conversation that is beneficial in enhancing the quality of education and professional outcomes within both environments. Thus, more research should be conducted in order to address these issues and provide a more direct approach to overcoming the ever present sense of stereotype threat and the myth of Black intellectual inferiority. Overall, this research suggests that stereotype threat has a significant amount of variability and that there may be differences in not only if, but also when certain variables have either buffering or amplifying effects on stereotype threat. Therefore, future research should focus on ascertaining the effectiveness of certain variables and the situations in

which they are successful at reducing stereotype threat. Identifying which of these variables buffer, under what circumstance does buffering occur and where (e.g., which type of institution) these variables have mitigating effects could help to establish a viable action plan to reduce stereotype threat and increase the diversity in various professional arenas. Thus, it is expected that future research will lead to a person-situation interaction that leads to stereotype threat to either buffer, amplify or have no effect on an African American individual's academic outcomes.

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APPENDICIES

Tables

Table 1: Oder of Measures

Experimental Conditions for Test Session

Low Stereotype Threat

PANAS
Threat stereotype threat
GRE test items
Demographics
PANAS
Stigma Consciousness
CRIS

High Stereotype Threat

PANAS
Demographics
CRIS
Threat stereotype threat
GRE test items
PANAS
Stigma Consciousness

**Post-test assessment
(approximately one week prior to test session)**

Demographics
Stigma Consciousness
Self-efficacy
Self-regulation

The Positive and Negative Affect Scale (PANAS)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now, that is, at the present moment. Use the following scale to record your answers. *These items have been added (discrete emotions) and are not part of the PANAS.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely
	interested		irritable	anxious*
	distressed		alert	angry*
	excited		ashamed	fearful*
	upset		inspired	disappointed•
	strong		nervous	frustrated•
	guilty		determined	
	scared		attentive	
	hostile		jittery	
	enthusiastic		active	
	proud		afraid	

Demographics Questionnaire

Please tell us a little bit about yourself.

1. Age _____

2. Sex: _____ Male _____ Female

3. Race/Ethnicity (check all that apply)

_____ Caucasian/White

_____ African American/Black

_____ Hispanic/Latino

_____ Asian

_____ More than one ethnicity

_____ Other (Specify : _____)

_____ Prefer not to say

5. Major: _____

6. Where did you live most of your childhood? If there are multiple places, list the one that you spent the most time as a child.

State: _____ City: _____

7. Mother's occupation during childhood: _____

8. Father's occupation during childhood: _____

9. Number of siblings: _____

1. Hometown: _____

2. Mother's education (circle one)

Less than high school Some high school High school diploma Some college

College degree Master's degree Ph.D. or Professional degree (MD, MBA, JD etc.)

3. Father's education (circle one)

Less than high school Some high school High school diploma Some college

College degree Master's degree Ph.D. or Professional degree (MD, MBA, JD etc.)

4. Racial composition of high school _____

Student Perception of University Structure and Support Scale

1 (“very strongly disagree”) to 4 (“very strongly agree”).

1. Students are informed during student orientation about help available to them if they are having any emotional or adjustment problems.

1 2 3 4

2. The degree and program requirements in the university calendar are very clear.

1 2 3 4

3. It’s easy to make friends.

1 2 3 4

4. Professors in classes make it clear what students are expected to do in order to get a good grade on assignments, papers and tests.

1 2 3 4

5. If a student needed help for an emotional problem, it would be easy to find a service on campus to help them.

1 2 3 4

6. Professors aren’t really clear about what they expect of students.

1 2 3 4

7. A student can feel pretty anonymous in my program.

1 2 3 4

8. There are lots of confusing rules that make registration and course selection difficult.

1 2 3 4

9. The professors don’t really care about their students.

1 2 3 4

10. If students are having difficulties with their academic coursework, they can easily talk to professors or their teaching assistants.

1 2 3 4

11. Professors at this school don’t really try to make you think.

1 2 3 4

12. Professors get tests and assignments back to students in good time.

1 2 3 4

13. It is hard for students to get advice in selecting courses or deciding on a program of study.

1 2 3 4

14. Professors and teaching assistants in classes are helpful and encouraging.

1 2 3 4

15. Academic policies on cheating and copying are made clear to students.

1 2 3 4

16. Professors and teaching assistants don’t give very much feedback on tests, exams or papers.

1 2 3 4

17. There’s very little opportunity for students to have direct one-to-one contact with a professor.

1 2 3 4

18. Other students in my program are supportive and friendly.

1 2 3 4

19. Professors emphasize reasoned questions and critical appraisal of what they present in class.

1 2 3 4

20. Faculty and teaching assistants post office hours and are available when they say they will be.

1 2 3 4

21. School officials and advisors are approachable and open-minded when you have a question or problem.

1 2 3 4

Self-Efficacy for Learning Form

Choose a percentage from 0% to 100% to indicate your answer

Definitely Cannot Do it				Probably Cannot	Maybe Can			Probably Can Do It			Definitely Can Do It
----------------------------	--	--	--	--------------------	--------------	--	--	-----------------------	--	--	-------------------------

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------

1. When you miss a class, can you find another student who can explain the lecture notes as clearly as your teacher did?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------

2. When your teacher*s lecture is very complex, can you write an effective summary of your original notes before the next class?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------

3. When a lecture is especially boring, can you motivate yourself to keep good notes?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------

4. When you had trouble understanding your instructor*s lecture, can you clarify the confusion before the next class meeting by comparing notes with a classmate?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------

5. When you have trouble studying your class notes because they are incomplete or confusing, can you revise and rewrite them clearly after every lecture?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------

6. When you are taking a course covering a huge amount of material, can you condense your notes down to just the essential facts?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------

7. When you are trying to understand a new topic, can you associate new concepts with old ones sufficiently well to remember them?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------

8. When another student asks you to study together for a course in which you are experiencing difficulty, can you be an effective study partner?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Definitely Cannot Do it Probably Cannot Maybe Can Probably Can Do It Definitely Can Do It

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

9. When problems with friends and peers conflict with schoolwork, can you keep up with your assignments?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

10. When you feel moody or restless during studying, can you focus your attention well enough to finish your assigned work?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

11. When you find yourself getting increasingly behind in a new course, can you increase your study time sufficiently to catch up?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

12. When you discover that your homework assignments for the semester are much longer than expected, can you change your other priorities to have enough time for studying?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

13. When you have trouble recalling an abstract concept, can you think of a good example that will help you remember it on the test?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

14. When you have to take a test in a school subject you dislike, can you find a way to motivate yourself to earn a good grade?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

15. When you are feeling depressed about a forthcoming test, can you find a way to motivate yourself to do well?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

16. When your last test results were poor, can you figure out potential questions before the next test that will improve your score greatly?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

17. When you are struggling to remember technical details of a concept for a test, can you find a way to associate them together that will ensure recall?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Definitely Cannot Do it				Probably Cannot	Maybe Can		Probably Can Do It			Definitely Can Do It

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------

18. When you think you did poorly on a test you just finished, can you go back to your notes and locate all the information you had forgotten?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------

19. When you find that you had to *cram* at the last minute for a test, can you begin your test preparation much earlier so you won*t need to cram the next time?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------

Self-Regulation Strategy Inventory

1. I make sure no one disturbs me when I study.
1 2 3 4 5 6 7
2. I make a schedule to help me organize my study time
1 2 3 4 5 6 7
3. I finish all of my studying before I play video games or with my friends
1 2 3 4 5 6 7
4. I try to study in a quiet place
1 2 3 4 5 6 7
5. I think about how best to study before I begin studying
1 2 3 4 5 6 7
6. I try to study in a place that has no distractions (e.g., noise, people talking)
1 2 3 4 5 6 7
7. I quiz myself to see how much I am learning during studying
1 2 3 4 5 6 7
8. I study hard even when there are more fun things to do at home
1 2 3 4 5 6 7
9. I tell myself to keep trying when I can't learn a topic or idea
1 2 3 4 5 6 7
10. I use binders or folders to organize my science study materials
1 2 3 4 5 6 7
11. I tell myself exactly what I want to accomplish during studying
1 2 3 4 5 6 7
12. I carefully organize my study materials so I don't lose them
1 2 3 4 5 6 7
13. I ask my teacher questions when I do not understand something.
1 2 3 4 5 6 7
14. I try to see how my notes from science class relates to things I already know.
1 2 3 4 5 6 7

15. I make pictures or drawings to help me learn science concepts.
1 2 3 4 5 6 7
16. I look over my homework assignments if I don't understand something.
1 2 3 4 5 6 7
17. I think about the types of questions that might be on a test.
1 2 3 4 5 6 7
18. I ask my science teacher about the topics that were on upcoming tests.
1 2 3 4 5 6 7
19. I rely on my science class notes to study.
1 2 3 4 5 6 7
20. I try to identify the format of upcoming science tests.
1 2 3 4 5 6 7
21. I forget to bring home my science materials when I need to study.
1 2 3 4 5 6 7
22. I avoid going to extra-help sessions in science.
1 2 3 4 5 6 7

23. I lose important science dittos or materials.

1 2 3 4 5 6 7

24. I give up or quit when I do not understand something.

1 2 3 4 5 6 7

25. I let my friends interrupt me when I am studying.

1 2 3 4 5 6 7

26. I avoid asking questions in class about things I don't understand.

1 2 3 4 5 6 7

27. I wait to the last minute to study for science tests.

1 2 3 4 5 6 7

28. I try to forget about the topics that I have trouble learning

1 2 3 4 5 6 7

Cross Racial Identity Scale

Instructions: Read each item and indicate to what degree it reflects your own thoughts and feelings, using the 7-point scale below. There are no right or wrong answers. Base your responses on your opinion at the present time.

1. As an African American, life in America is good for me.
1 2 3 4 5 6 7
2. I think of myself primarily as an American, and seldom as a member of a racial group.
1 2 3 4 5 6 7
3. Too many Blacks “glamorize” the drug trade and fail to see opportunities that don’t involve crime.
1 2 3 4 5 6 7
4. I go through periods when I am down on myself because I am Black.
1 2 3 4 5 6 7
5. As a multiculturalist, I am connected to many groups (Hispanics, Asian-Americans, Whites, Jews, gays & lesbians, etc.).
1 2 3 4 5 6 7
6. I have a strong feeling of hatred and disdain for all White people.
1 2 3 4 5 6 7
7. I see and think about things from an Afrocentric perspective.
1 2 3 4 5 6 7
8. When I walk into a room, I always take note of the racial make-up of the people around me.
1 2 3 4 5 6 7
9. I am not so much a member of a racial group, as I am an American.
1 2 3 4 5 6 7
10. I sometimes struggle with negative feelings about being Black.
1 2 3 4 5 6 7
11. My relationship with God plays an important role in my life.
1 2 3 4 5 6 7
12. Blacks place more emphasis on having a good time than on hard work.
1 2 3 4 5 6 7
13. I believe that only those Black people who accept an Afrocentric perspective can truly solve the race problem in America.
1 2 3 4 5 6 7
14. I hate the White community and all that it represents.
1 2 3 4 5 6 7

15. When I have a chance to make a new friend, issues of race and ethnicity seldom play a role in which that person might be.
1 2 3 4 5 6 7
16. I believe it is important to have both a Black identity and a multicultural perspective, which is inclusive of everyone (e.g., Asians, Latinos, gays & lesbians, Jews, Whites, etc.).
1 2 3 4 5 6 7
17. When I look in the mirror at my Black image, sometimes I do not feel good about what I see.
1 2 3 4 5 6 7
18. If I had to put a label on my identity, it would be “American,” and not African American.
1 2 3 4 5 6 7
19. When I read the newspaper or a magazine, I always look for articles and stories that deal with race and ethnic issues.
1 2 3 4 5 6 7
20. Many African Americans are too lazy to see opportunities that are right in front of them.
1 2 3 4 5 6 7
21. As far as I am concerned, affirmative actions were needed for a long time.
1 2 3 4 5 6 7
22. Black people cannot truly be free until our daily lives are guided by Afrocentric values and principles.
1 2 3 4 5 6 7
23. White people should be destroyed.
1 2 3 4 5 6 7
24. I embrace my own Black identity, but I also respect and celebrate the cultural identities of other groups (e.g., Native Americans, Whites, Latinos, Jews, Asian Americans, gays & lesbians, etc.).
1 2 3 4 5 6 7
25. Privately, I sometimes have negative feelings about being Black.
1 2 3 4 5 6 7
26. If I had to put myself into categories, first I would say I am an American, and second I am a member of a racial group.
1 2 3 4 5 6 7
27. My feelings and thoughts about God are very important to me
1 2 3 4 5 6 7
28. African Americans are too quick to turn to crime to solve their problems.
1 2 3 4 5 6 7

29. When I have a chance to decorate a room, I tend to select pictures, posters, or works of art that express strong racial -cultural themes.

1 2 3 4 5 6 7

30. I hate White people.

1 2 3 4 5 6 7

31. I respect the ideas that other Black people hold, but I believe that the best way to solve our problems is to think Afrocentrically.

1 2 3 4 5 6 7

32. When I vote in an election, the first thing I think about is the candidate's record on racial and cultural issues.

1 2 3 4 5 6 7

33. I believe it is important to have both a Black identity and a multicultural perspective, because this connects me to other groups (Hispanics, Asian-Americans, Whites, Jews, gays & lesbians, etc.).

1 2 3 4 5 6 7

34. I have developed an identity that stresses my experiences as an American more than my experiences as a member of a racial group.

1 2 3 4 5 6 7

35. During a typical week in my life, I think about racial and cultural issues many, many times.

1 2 3 4 5 6 7

36. Blacks place too much importance on racial protest and not enough on hard work and education.

1 2 3 4 5 6 7

37. Black people will never be free until we embrace an Afrocentric perspective.

1 2 3 4 5 6 7

38. My negative feelings toward White people are very intense.

1 2 3 4 5 6 7

39. I sometimes have negative feelings about being Black.

1 2 3 4 5 6 7

40. As a multiculturalist, it is important for me to be connected with individuals from all cultural backgrounds (Latinos, gays & lesbians, Jews, Native Americans, Asian Americans, etc.).

1 2 3 4 5 6 7

Stigma Consciousness Questionnaire (SCQ)

Use the following scale to answer the questions below:

Strongly Disagree				Neutral				Strongly Agree
1	2	3	4	5	6	7		

5. My race/ethnicity does not influence how people act with me My race/ethnicity does not influence how Whites act with me
1 2 3 4 5 6 7

6. I almost never think about my race/ethnicity when I interact with Whites
1 2 3 4 5 6 7

7. Most Whites do NOT judge people of my race/ethnicity on the basis of their race/ethnicity
1 2 3 4 5 6 7

8. Most Whites have a lot of racist thoughts than they actually express
1 2 3 4 5 6 7

9. Most Whites have a problem viewing people of my race/ethnicity as equals
1 2 3 4 5 6 7

10. When interacting with Whites, I feel like they interpret all my behaviors in terms of my race/ethnicity
1 2 3 4 5 6 7

11. Stereotypes about people of my race/ethnicity have not affected me personally
1 2 3 4 5 6 7

12. I never worry that my behaviors were viewed as stereotypical of people of my race/ethnicity
1 2 3 4 5 6 7

13. I often think that Whites are unfairly accused of being racist
1 2 3 4 5 6 7

[High Stereotype Threat Diagnostic condition]

As you probably know, mathematical and verbal skills are crucial to performance in many important subjects in college. Yet surprisingly little is known about the various personal factors involved in performance on problems requiring mathematical and verbal reasoning abilities. This research is aimed at better understanding what makes some people better at Math and English than others. Specifically, we are investigating the potential race related difference that may account for the racial/ethnic gap in standardized test scores.

This test is difficult so it can provide a genuine test of your verbal and math abilities and limitations so that we might better understand the factors involved in all of them. Please try to answer each question as well as you can to help us in our analysis of your verbal and math abilities.

HOW TO ANSWER QUESTIONS

Please read each item and then mark your response by circling the letter adjacent to the appropriate answer. To change an answer, cross out your previous one and circle your new answer.

TIMING

You were given 45 minute to finish the test portion of the study (24 multiple-choice items).

MATERIAL

A pen or a pencil. If you need scratch paper, please ask the investigator.

[Low Stereotype Threat Non-diagnostic Condition]

This test is a laboratory problem solving task that is not intended to be diagnostic of intelligence. The purpose of the research is to better understand the psychological factors involved in solving verbal and math problems. This test is difficult because the focus of the research is on difficult verbal and math problems. After the test, you will receive feedback that may be helpful to you by familiarizing you with the kinds of problems that appear on tests you may encounter in the future.

Please try to answer each question as well as you can to help us in our analysis of the problem solving process.

HOW TO ANSWER QUESTIONS

Please read each item and then mark your response by circling the letter adjacent to the appropriate answer. To change an answer, cross out your previous one and circle your new answer.

TIMING

You were given 45 minutes to finish the test portion of the study (24 multiple-choice items).

MATERIAL

A pen or pencil. If you need scratch paper, please ask the investigator.

Office for Research
Institutional Review Board for the
Protection of Human Subjects

THE UNIVERSITY OF
ALABAMA
RESEARCH

May 28, 2015

Gabrielle Smith, M.A.
Department of Psychology
College of Arts & Sciences
The University of Alabama
Box 870216

Re: IRB # 14-OR-207-R1 "Are You Test Ready?"

Dear Ms. Smith:

The University of Alabama Institutional Review Board has granted approval for your renewal application.

Your renewal application has been given expedited approval according to 45 CFR part 46. Approval has been given under expedited review category 7 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your application will expire on May 27, 2016. If your research will continue beyond this date, complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, complete the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, complete the appropriate portions of the IRB Study Closure Form.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,



IRB Project #: 14-OR-207-R1

UNIVERSITY OF ALABAMA

INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN SUBJECTS
REQUEST FOR APPROVAL OF RESEARCH INVOLVING HUMAN SUBJECTS

I. Identifying information

	Principal Investigator	Second Investigator	Third Investigator
Names:	Gabriele Smith	Debra McCallum	
Department:	Psychology/ISSR	ISSR	
College:	A&S	A&S	
University:	UA	UA	
Address:	Box 870216	Box 870216	
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Title of Research Project: Are you test ready?

Date Submitted: 5-22-15
Funding Source: NIH

Type of Proposal	<input type="checkbox"/> New	<input type="checkbox"/> Revision	<input checked="" type="checkbox"/> Renewal Please attach a renewal application Please attach a continuing review of studies form	<input type="checkbox"/> Completed	<input type="checkbox"/> Exempt
Please enter the original IRB # at the top of the page					

UA faculty or staff member signature: _____

II. NOTIFICATION OF IRB ACTION (to be completed by IRB):

Type of Review: _____ Full board Expedited

IRB Action:

Rejected Date: _____
 Tabled/Pending Revisions Date: _____
 Approved/Pending Revisions Date: _____

Approved-this proposal complies with University and federal regulations for the protection of human subjects.

Approval is effective until the following date: 5-27-16
Items approved: _____ Research protocol (dated _____)
_____ Informed consent (dated _____)
_____ Recruitment materials (dated _____)
_____ Other (dated _____)

Approval signature: _____ Date: 5/28/2015