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ACHIEVEMENT MOTIVATION IN AFRICAN AMERICAN COLLEGE STUDENTS

by

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ABSTRACT

ACHIEVEMENT MOTIVATION IN AFRICAN AMERICAN COLLEGE STUDENTS

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This study investigated the relationship between academic performance and stereotype threat (ST), achievement motivation, and racial socialization for African American (AA) students at an historically black university. Participants were 108 students randomly assigned to high or low ST condition. Students completed a performance measure, Noncognitive Questionnaire (NCQ), and Teenager Experience of Racial Socialization Scale (TERS) (Sedlacek, 2004; Stevenson et al., 2002). Results indicated that performance was not dependent upon threat, $p = .63$. Appreciation of AA culture was negatively associated with performance, $p = .05$. Drive toward academic self-development was positively related to performance, $p = .05$. Limitations and implications are discussed.

Co-Chairs of Dissertation Committee: Dr. Ernestine Duncan
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I dedicate this dissertation to my mother, Jackie Muldrow, who had always instilled in me the importance of education; my sister, Coltne Muldrow, who has served as an unending source of love, understanding, support and friendship; my nephew, Darnell Alexander McQueen, who had, on many occasions, stoically suppressed his six-year old rambunctious tendencies in order that his "Auntie" could have a quiet afternoon researching; my friend, Luis Carlos Richter, whose encouragement, listening ear and friendship has supported me throughout the journey of graduate school; and my wonderful husband, Joseph Edward Bennett, whose love, faith, support, and most of all, patience had re-instilled in me the enthusiasm to complete the last leg of the graduate school journey with gusto. I thank God for blessing me with such amazing friends and family.

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INTRODUCTION TO ACADEMIC ACHIEVEMENT

Academic achievement, defined as the student's attainment of markers indicative of academic success (e.g., good grades, academic degrees, test scores, teacher ratings of student performance, graduation), is of paramount importance throughout the educational process for it has serious social and economic implications (Guay, Marsh & Boivin, 2003; Halawah, 2006; Johnson, McGue, & Iacono, 2006). The ever-increasing globalization of jobs results in the transfer of manufacturing and service jobs from the United States to a less expensive foreign labor market (Ramey & Ramey, 2004). This pressures individuals in the United States to become more academically accomplished in order to meet the higher educational demands of the United States' job market. In addition to helping individuals develop the occupational skills to compete globally, achievement is also important because it prepares individuals to secure high paying placements within this competitive job market that will guarantee a livable income (Johnson, et al., 2006).

For example, there is research indicating that individuals who possess a college degree are at a greater advantage than those who do not in terms of their earnings and employment rates [National Center for Education Statistics (NCES), 2007]. In the year 2005, the United States Census Bureau reported that only 17% of African Americans over the age of 25 had earned a Bachelor's degree while 24% of blacks, during the same time period, reported living in poverty (United States Census Bureau, 2005). Therefore, college achievement is compelling as it increases job and standard of living options,

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increases future educational opportunities, and increases lifetime earnings, particularly for African Americans (Johnson et al., 2006).

It is important to note that achievement is not only associated with increased incidences of positive outcome. Research indicates that it is also associated with decreased incidences of negative outcomes as well. Early educational attainment is important as it has implications for future well-being. It is highly correlated with decreased incidences of teen pregnancy, welfare dependency, juvenile delinquency and later criminal behavior (Biglan, Brennan, Foster, & Holder, 2004; Johnson et al., 2006; Tatum, 1996; Tremblay, Masse, & Perron, 1992).

There appear to be several factors associated with achievement [e.g., intelligence, parental psychopathology, health problems, socioeconomic status, parental involvement and support, family size, stressful life events, parental education, ethnicity, and inadequate funding of academic institutions)]; however, the most critical factor is achievement motivation (Aronson, 2002; Halawah, 2006; Johnson et al., 2006; Kowaleski-Jones, Dunifon & Ream, 2006).

For example, Robbins et al. (2004) conducted a meta-analysis where they examined the relationship between college outcome (i.e., achievement measured by grade point average (GPA)), study skills factors and psychosocial variables. Psychosocial variables refer to a broad label encompassing factors such as the student's academic goals, institutional commitment, social support, social involvement, academic self efficacy, academic-related skills, financial support, the selectivity of the institution and achievement motivation. Robbins et al. found that there was a positive relationship between psychosocial factors and GPA. Most interestingly, within the psychosocial

factors, achievement motivation was found to be among the strongest predictors of achievement. Achievement motivation will be the primary academic performance-related variable examined in this paper as it is regarded as a critical determinant of scholastic performance (Graham, 2004; Long, Monoi & Harper, 2007).

ACHIEVEMENT MOTIVATION

Achievement motivation is defined as one's commitment to the learning process (Halawah, 2006; Johnson et al., 2006). Legault, Green-Demers, and Pelletier (2006) stated that motivation is a complex phenomenon that is influenced by variables that extend beyond the educational domain to include the broader social context within which the student is situated. Specifically, Legault et al. asserted that a student's motivation is highly dependent upon his or her feelings of dedication to academic success. Legault et al. have noted that feeling identified with school is an important variable, which is likely to have implications for success at all levels of academia.

Motivation is also influenced by the value that the student places on academic tasks (Legault et al., 2006). That is, if the student evaluates the task as relevant and engaging, then he or she will value its completion, and feel motivated enough to complete it. Research has also indicated that achievement motivation is dependent upon the student's feelings of support and academic self-efficacy (Legault et al., Steele, 1997). However, a principle variable associated with achievement motivation is having enriching relationships with key academic social figures, such as teachers. These social figures foster feelings of affiliation between the institution and the student and promote retention (Mussat-Whitlow, 2005; Vallerand, Fortier, & Guay, 1997).

As an extension of the above mentioned variables associated with academic success, Tracey and Sedlacek (1987) conducted a study that attempted to discern factors that predicted academic success and retention of both African American and Caucasian students at a predominantly white university. In this study, Tracey and Sedlacek administered the noncognitive questionnaire (NCQ) to entering freshman (1,552 Caucasian and 214 African American). The NCQ is a self-report measure that has 2 demographic questions, 3 open-ended questions and 17 questions that are scored on a 5-point Likert type scale. Sedlacek (2004) developed a standard scoring system for the Likert items as well as the open-ended questions. Tracey and Sedlacek found that college graduation was predicted by a number of, what they termed, noncognitive factors (i.e., variables that are related to how well the student achieves, but are not based on intellectual capabilities). For African American students, these critical variables were having the support of mentors, faculty members, or a caring individual, for their academic plans; however, these particular noncognitive variables did not predict graduation for Caucasian students.

Farver, Sedlacek and Brooks (1975) have found certain variables assessed on the NCQ to be correlated with academic persistence for all students, but even more so for minority students. Self concept (the student possesses a strong sense of self, confidence, independence, and strength of character), realistic self-appraisal (the student acknowledges and accepts any academic or background deficiencies and works hard at self development), demonstrated community service (evidence of the extent to which a student has reached out to his or her community), academic interest and familiarity (the student has an expressed interest and involvement with extracurricular academic

organizations), successful leadership experience (the student has demonstrated leadership skills), preference for long range goals over immediate short term goals (the student understands and is willing to accept delayed gratification), ability to understand and cope with racism (the student is a realist about racism, has developed an understanding of this concept based on personal experience, feels committed to working towards positive change, and takes a proactive approach), and the availability of a strong support person/system for academic plans. The availability of a strong support implies the student has a person of strong influence to turn to in times of crisis who can provide advice, and lend other kinds of support as well. This individual could likely be a faculty member or mentor as well as another individual outside of academia.

Researchers have noted that some African American students lack the non-cognitive variables associated with achievement motivation. Cokley (2003) reviewed and integrated data on achievement motivation and self concept of African American students finding that African American students may have the tendency to be less identified with academia. That is, although they tend to be highly intrinsically motivated to achieve, this achievement is not related to their self-worth. Because African American students may not be as identified with academia as their Caucasian peers, they may be at increased risk to underachieve despite motivation.

Further, researchers have noted that some African American students are more likely to be detached from school, tend to place less value on education, are less likely to have enriching mentoring relationships, and are less likely to feel supported in academia (Cokley, 2002; Constantine, Erickson, Banks, & Timberlake, 1998; Costa, 1997; Steele, 1997; Taylor & Olswang, 1997). These factors have been cited as critical for success,

and therefore it is imperative to investigate achievement and achievement motivation among African Americans since this population may be at increased risk for compromised academic performance. It is important to note that decreased achievement motivation is not a global factor that affects all African American students, and it doesn't equally affect students at all levels of academia.

HBCUS AND PWIS: AN HISTORICAL REVIEW

There are two general student populations to explore when investigating achievement and motivation in African American college students: African Americans at predominately white institutions (PWIs), and African Americans at historically black colleges and universities (HBCUs). Each of these academic environments may differentially affect achievement and motivation, which has implications for academic performance. Before discussing achievement in these populations it is important to discern how these educational environments differ.

Kim (2002) stated that the distinction between PWIs and HBCUs has historical roots in the 1954 Supreme Court case *Brown v. Board of Education,* which desegregated schools. Jewell (2002) and Kim (2002) stated that before 1954, institutions of higher learning were reserved, primarily, for Caucasians. HBCUs were founded by the few who were sympathetic to the cause of educating African Americans. The function of HBCUs was principally to educate African Americans to become teachers in segregated schools. However, Jewell mentioned that there was the side effect of affording African American students the opportunity to attend institutions of higher learning.

After the 1954 *Brown V. Board of Education* decision, African Americans began to enroll in PWIs in higher numbers, and HBCUs that lost enrollment began to admit

Caucasian students to compensate for decreased enrollment (Brown, Donahoo, &

Bertrand, 2001). With integration, the racial composition of the student body on some of

these campuses began to equalize (Provasnik & Snyder, National Center for Education

Statistics, 2004). Considering the racial evening that has occurred on some HBCU

campuses, HBCU is not necessarily a term that reflects racial composition. HBCU is a

term that refers to a college or university that was historically founded to educate African

Americans (Kim, 2002). Unlike the term HBCU, PWI refers to a college or university

where the statistical majority is Caucasian. Despite the growing racial similarity between

some of the student bodies at HBCUs and PWIs, HBCUs and PWIs are fundamentally

distinct institutions whose academic environment has differential affects on the student

body.

For example, many researchers have noted that racial self-consciousness is a

major variable affecting achievement for African American college students and this

heightened self-consciousness may make some African American students more

vulnerable to the effects of stereotype threat (e.g. Inzlicht & Good, 2006; Osborne, 2001;

Steele & Aronson, 1995). Stereotype threat is defined as the heightened sense of

awareness that occurs when a group member must perform a task for which that group is

negatively stereotyped (Steele & Aronson). Much of past research has investigated

stereotype threat in African American college students at PWI's (Cokley, 2002; Steele &

Aronson). It may be that previous researchers have assumed that at an HBCU, racial

self-consciousness is typically not a problem. However, as other researchers have

suggested, some students who attend HBCUs have been socialized to perceive more

discrimination and racism in society (Hudgins, 2005). Therefore, it is possible that these

African American students may be more susceptible to the academic effects of stereotype threat than once thought. As a result, it is important to investigate achievement and motivation at HBCU campuses because those African American students choosing to attend this sort of institution may be at a higher risk of performance decreasing anxieties than traditionally speculated. The following sections will further delineate the differences between HBCUs and PWIs as well as how achievement and achievement motivation can differ for African American students at these institutions.

ACHIEVEMENT IN AFRICAN AMERICAN STUDENTS AT PWIS

Sedlacek (1999) researched the achievement of African American college students at PWIs over a twenty-year period spanning from 1960-1980 to discern factors that are associated with academic success among African American students. Many researchers have noted that traditional predictors of academic success (e.g., ACT, SAT, GRE scores) do not provide an adequate basis for understanding academic achievement for African Americans. (e.g., Lockett, 2002; Niilampti, 2006). As earlier mentioned, achievement motivation for African Americans may be better related to noncognitive variables.

Nasim, Roberts, and Harrell (2005) and Sedlacek (1999) identified several noncognitive variables associated with academic success for African American college students. Further, Sedlacek related that the development of self-concept and confidence is associated with a sense of belonging and inclusion, which has an influential role in the academic achievement of African American college students. The more African American students feel as though they are a part of the academic community, then the higher self-esteem and subsequent achievement (Sedlacek). Lett (2003) reported that

African American students often have feelings of isolation, alienation and rejection in PWIs. More so, Steward, Jackson and Jackson (1990) conducted a study with 46 African American students where they compared the interactional style of these students at PWIs and predominantly black college campuses. Steward et al. reported that students reported fewer feelings of inclusion at predominantly white campuses, and concomitant desires for inclusion, while at predominantly black college campuses these students reported more feelings of belonging.

Fries-Britt, & Turner (2001) conducted a focus group with 15 successful African American students at a PWI ("successful referred to the fact that these African American students were enrolled at a highly selective university with an enrollment under 10,000 students). In this study the authors inquired about the student's academic, social and racial experiences, as well as the effect that these experiences may have on academic achievement. From this focus group, Fries-Britt and Turner suggested that African American students attending PWIs experience significantly high levels of social isolation and racial stereotypes. These stereotypes and isolation were shown to erode their academic sense of self and endanger academic performance. Research by Romando (1998) also found that academic isolation had negative consequences for academic performance. In his study, he sampled 800 African American students at a Midwestern PWI, administered a number of measures and found that academic achievement suffered because of social isolation.

Isolation on PWI campuses is often attributed to the lack of a critical mass of African American students, faculty, administrators; lack of a campus culturally sensitive to African Americans; and the resultant feelings of disconnection and disunity with other

students and the campus (Fries-Britt, & Turner, 2001). At PWIs, black faculty make up only 5% of the total full time faculty, on average, while at HBCUs African American faculty make up 62% and Caucasian faculty constitute 27% of the total faculty (Provasnik, & Snyder, 2004). Research indicates that African American students rely heavily on support networks and mentors for academic support and to develop career goals and achieve them (Falconer & Hays, 2006; Hebert, 2002; Thomas, 2006). Considering that mentors and support networks may be few and far between on the campuses of PWIs, then African American students at PWIs may have this difficulty with achievement (Fries-Britt & Turner, 2001; Jones, 2004). And, the involvement of the predominantly white faculty with African American students is often minimal (Kobrak, 1992).

So, even with the racial equalization of the student body on PWIs and HBCUs, African American students can feel isolation on PWI campuses as these campuses lack the other variables associated with feelings of inclusion. This isolation can detract from the African American student's self-concept and make him or her vulnerable to academic failure (e.g., Berger & Milem, 2000; Bohr & Pascarella, 1995). Isolation also undermines the development of other variables that are predictive of academic success for African American college students at PWIs. Isolation weakens the impetus for community involvement, which constricts leadership opportunities. Isolation also prevents the development of strong associations with faculty members, which has been shown to play a pivotal role in academic achievement for African American students (Fries-Britt & Turner, 2001; Sedlacek, 1999).

Aside from isolation, researchers have noted that African Americans at PWIs face an academic environment unlike their Caucasian peers. In addition to the usual school pressures, African American students may also contend with cultural biases and racially hostile environments (Gardner, 1995, Sedlacek, 1999). Fries-Britt and Turner (2001) investigated racism, and its academic affects for African American students at PWIs. They found that African Americans at PWIs experience perceptions of negative academic expectations from their peers, negative racial stereotypes, and an academic environment that is not receptive to African American culture. They and other researchers have indicated that racism and a racially hostile environment can erode academic performance, especially because support relationships with other African Americans, a key coping mechanism, are often sparse on PWI campuses (Cohen & Steele, 2002; Gardner, 1995).

Dorsey (1995) mentioned that personal motivation and aspiration are also important predictors of academic success for African American college students. Personal motivation refers to the student's persistence in academia, as well as his or her belief that success in academia is important for future occupational success. Aspiration refers to the student's desire to productively utilize his or her education. Dorsey sampled 86 African American college juniors and seniors from a predominately white Midwestern institution and found that those African American students who had definitive career goals and who had taken steps to attain them were more likely to be successful at a PWI. When exploring the factors that are predictive of success for African American college students, it is important to note that, although the research is informative, a limitation of the research is that it is somewhat dated and was sometimes conducted with smaller sample sizes.

AFRICAN AMERICANS AT HBCUS

HBCUs offer quality education, and can be more effective at promoting academic achievement for African American students than are PWIs (Berger & Milem, 2000; DeSousa & Kuh, 1996; Seifert, Drummond, & Pascarella, 2006). Additionally, attending an HBCU can increase the likelihood of graduating by more than 200% (Key, 2003; National Center for Education Statistics, 2001). The improved academic retention at HBCUs is important since educational attainment has been associated with economic empowerment, the attainment of professional leadership roles and further educational opportunities (Freeman, & Cohen, 2001; Garibaldi, 1997).

Smith (2003) has noted that supportive relationships, specifically, those with African American faculty members, is a significant predictor for the African American student's commitment to academia, social integration, and academic success. Many researchers have found that HBCUs may be particularly beneficial for African American college students because they provide the African American student with relationships with African American faculty (e.g., Chism & Satcher, 1998; Dorsey 1995; Key, 2003; Outcalt & Skewes-Cox 2002). Specifically, Chism and Satcher administered questionnaires to African American students at two HBCUs to assess faculty-student relationships. Chism and Satcher found that students viewed the relationships between African American faculty and students more positively than those with other faculty members.

The above research has indicated that HBCUs can foster the presence of the non-cognitive variables that have been associated with achievement for African American students. However, it is noteworthy that, despite the presence of the positive academic

conditions at HBCUs, African American students may still lag behind other students in college achievement. Therefore it is important to look at other factors that might affect achievement.

HBCUS AND RACIAL SOCIALIZATION

Researchers have generally noted that racial socialization is defined as the process through which messages about culture, ethnicity and race are imparted (e.g., Hughes et al., 2006; Hughes & Johnson, 2001; Stevenson et al., 2002). More specifically, Scott (2003) defines racial socialization as the interactive and communicative process, between African Americans (children) and their caregivers, whereby decisions concerning cultural heritage and how to navigate the racial landscape of American society are made. Further, Lesane-Brown (2006) elaborated on the communicative process of racial socialization stating that it is the specific verbal and non-verbal messages transmitted to younger generations for the development of values, attitudes, behaviors, and beliefs regarding the meaning and significance of race and racial stratification, intergroup and intragroup interactions, and personal and group identity. These messages can be positive (e.g., encouraging cultural traditions and educating about important racial experiences), negative (e.g., preparing for racial bias) or neutral (e.g., egalitarianism and silence about race) (Hughes et al., 2006).

African Americans grow up in a society where they are barraged with racial messages, and from these socialization experiences, students develop ideologies about race and ethnic identity (Hughes et al., 2006). These ideologies are an inherent part of the student's personal identity, and are therefore brought with him or her into the campus climate, which, in turn, can profoundly impact their perception of race and racial

experiences while at an HBCU. So, since African American students bring their own racial socialization experiences to the college environment, then attending an HBCU cannot necessarily immunize African Americans against certain racial messages.

Hughes et al. (2006) synthesized the literature on racial socialization and noted that messages for African Americans are often designed to raise racial awareness and consciousness; educate African American children about social inequities and injustices; prepare them for racial bias, and instill racial pride. Some research has shown that African American students who attend HBCUs tend to have received more of these racial socialization messages than their peers who attend PWIs and therefore, tend to be more racially self-conscious than their peers at PWIs (Cokley, 1999; Hudgins, 2005). Therefore, those African American students at HBCUs may have chosen to attend a HBCU because of the desire for a high African American presence and the belief that there may be a decreased probability for discrimination because of racial solidarity.

Although this racial socialization is designed to prepare the African American child for society, if it increases a child's perception of discrimination, then it may have disastrous effects for academic achievement (Anglin, 2004; Hill, 2005; Hughes et al., 2006). For example, Cooper (2006) found that perceived discrimination was related to a decrease in academic curiosity, persistence, and student self-reported grades. Brody et al. (2006) noted that perceived discrimination is also related to depressive symptoms and conduct problems.

As earlier noted, researchers have noted that racial self-consciousness is a major variable affecting achievement for African American college students which can make some African American students more vulnerable to the effects of stereotype threat (e.g.

Inzlicht & Good, 2006; Osborne, 2001; Steele & Aronson, 1995). Since some students who attend HBCUs have been socialized to perceive more discrimination and racism in society, it is imperative to study achievement in HBCU populations because these African American students may be more susceptible to the negative academic effects of stereotype threat than once thought, especially when compared to their PWI peers.

STEREOTYPE THREAT, AFRICAN AMERICANS AND ACHIEVMENT

Stereotype threat is the social-psychological threat occurring when a group member must perform a task for which that group is negatively stereotyped (Steele & Aronson, 1995). In such a situation, the individual fears confirming the negative stereotype, which would make the stereotype more plausible as a self-characterization in the eyes of others, and perhaps, even in the eyes of one's self (Cohen, 2005; Marx, Stapel, & Muller, 2005). As a result of this fear, performance is degraded. Thus, stereotype threat is a self-evaluative threat that can beset the members of any group about which negative stereotypes are prevalent in society (Osborne, 1997). The individual need not believe the stereotype true in order for the threat to be activated. The individual need only be aware of the stereotype, be identified with the stereotyped area, and care about his or her performance in the particular stereotyped domain (Aronson, 2002; Aronson, Fried & Good, 2001; Steele, 1997 as cited in Whaley 1998). Negative stereotypes exist for African American students about their race and academic abilities (i.e., African American students are stereotyped as being less intelligent and less academically capable than their Caucasian peers) (Aronson, 2002). This stereotype creates anxiety about academia and can impede performance.

The stereotype of academic inferiority stems from the documentation of gaps in school achievement and retention rates between African American and Caucasian students at all levels of schooling (e.g., Aronson et al., 2001; Chatterji, 2006, Cokley 2002; Lang & Ford, 1992). Gosman, Dandridge, and Nettles (1983) reported that African American students tend to take longer to complete educational programs than their Caucasian peers. Further, it was noted that, when all else is considered equal, African Americans college students have a graduation rate of just 43% as compared to that of 62% of the Caucasian counterparts at PWIs (based on a six year graduation rates). It has been most common to attribute this African American/Caucasian gap to socioeconomic disadvantages (e.g., segregation, poverty, stereotypes and discrimination) (Chatterji, 2006; Evans, 2003). However, research has also indicated that academic performance is hindered by stereotype threat as well. Degraded academic performance occurs either through anxiety, or through pressuring the student to disidentify with academics as a tactic to alleviate this anxiety (Aronson; 2002; Aronson et al., 2001; Aronson, Quinn & Spencer, 1998; Cokley, 2002).

Many studies have documented the effect of stereotype threat-induced anxiety and decreased academic performance (e.g. Aronson, 1999; Aronson et al.,1998; Blascovich, Spencer, Quinn, & Steele, 2001). Like many of the studies investigating the role of anxiety and decreased academic performance, Steele and Aronson (1995) conducted a prototypic study to examine the impact of stereotype threat on academic performance. In this study, they made salient the stereotype that African Americans are less intelligent than Caucasians. They did so by introducing a test condition that was purported to measure intellectual ability (a condition that would induce stereotype threat by making

the intelligence stereotype salient) and comparing it to a test condition that was not purported to measure intellectual ability (a condition that did not induce stereotype threat). Steele and Aronson found that African American participants performed worse than Caucasian participants (even after controlling for intellectual ability as measured by the Scholastic Aptitude Test) when the test was purported to be diagnostic of intellectual abilities, however, performance equalized when the test was presented as unrelated to intellectual abilities. This indicates that when negative stereotypes about African Americans are made salient, and anxiety of confirming a negative stereotype is induced, performance for African Americans can be impaired.

Stereotype threat not only influences academic performance through the induction of anxiety but can also impact identification with academia (Steele, 1992). Steele maintains the assumption that all children begin their educational career identified with school. By identified, Steele means that the individual has interests, skills, resources, opportunities to prosper, and a sense of belonging and acceptance within academia. For college students, "identified" means feeling a sense of inclusion and acceptance within the campus culture (Walker, Greene & Mansell, 2006). Being identified with school also assumes that achievement is a part of the student's identity, and good feelings about the self depend in some part on good academic achievement.

Experiencing stereotype threat chronically, as when an African American student spends considerable time in competitive, performance oriented academic situations, can result in disidentification. Disidentification is a reconceptualization of the self and of one's values so as to remove the domain as a basis of self-evaluation and identity (Aronson, 2002; Cokley, 2002; Osborne, 1997). In other words, disidentification occurs

when self-esteem and self-evaluation is independent from academia. Disidentification offers the retreat of not caring in a particular domain, and it can maintain overall self-esteem by basing self-esteem on those areas where the individual performs well, as opposed to those areas that are threatening.

Cokley (2002) noted that not all African American students disidentify with academics, and that disidentification is a particular risk, increasingly pronounced as African American students progress through their academic careers. Cokley (2002) noted that African American students, especially males, are particularly vulnerable to disidentification as they progress academically. Cokley recruited 359 African American college students and 229 European American college students from one Midwestern PWI, one southern PWI, and two southern HBCUs and instructed each student to complete a questionnaire packet which included the Academic Self-Concept Scale (Reynolds, Ramirez, Magrina, & Allen, 1980) and the Rosenberg Self-Esteem Scale (Rosenberg, 1965).

The Academic Self-Concept Scale assesses how a student views his or her academic abilities, while the Rosenberg Self-Esteem Scale is a general measure of how a person views his or her abilities. Achievement was measured by self-reported GPA. Cokley found that African Americans, specifically males, had lower grade point averages than Caucasians, and African Americans as a whole had consistently higher measures of self-concept. Most notably, this discrepancy between achievement and self-concept was larger in upperclassmen than underclassmen indicating the tendency to disidentify with academia as school progressed. These discrepancies were not as pronounced with students at an HBCU suggesting that those African Americans who choose to attend an

HBCU, on average, may have factors that encourage continued identification with academia.

COPING WITH STEREOTYPE THREAT

Although disidentification from academia can offer a retreat, Steele (1997) maintained that disidentification can be costly when the domain is as socioeconomically important as schooling. Lang and Ford (1992) suggested that, in order to foster academic identification, and academic performance, far-reaching strategies that develop the building blocks of education are required, such as better skills, greater academic self-efficacy, feelings of social and cultural comfort in the domain, and a lack of social pressure to disidentify. For those individuals who are already identified with academia, reducing the threat itself may be enough to foster academic performance. This can be accomplished through affirming domain belongingness, valuing multiple perspectives and providing role models.

College programs based on this philosophy have shown effectiveness in increasing identification and retention in academia (Lang & Ford, 1992). For example, the *Patterns of Enrollment* study was the first systematic attempt to look at enrollment and retention patterns over time. This study investigated the Fenway Retention Consortium, which was a group of 17 Boston area colleges and universities and seven Boston public high schools, begun in 1983, whose joint goal was to increase the retention of minority graduates enrolled in Boston area postsecondary institutions. Tactics to improve performance included conferences, and shared retention practices, such as extended orientation programs, teamed advising programs, supplemental instruction and summer programs for entering college students (Lang & Ford). Four years later, the study

found that the Boston high school graduate unemployment rate had decreased, and college freshman enrollment had increased.

Considering the grave socioeconomic implications associated with academic disidentification (e.g., academic underachievement and socioeconomic inequality), Aronson et al., (2001) agreed that it is important to eliminate stereotype threat. Aronson et al. maintained that changing stereotypes may be an ineffective strategy to reduce stereotype threat as stereotypes are resistant to change. So, instead of working to decrease stereotype threat by challenging the negative stereotypes, Aronson et al. worked to decrease stereotype threat by altering students' responses to stereotype threat. Specifically, Aronson et al. conducted an experiment to determine if teaching African American college students to resist their negative responses to stereotype threat could improve academic performance. Aronson et al. found that teaching African American participants to respond to the stereotype that African Americans are less intelligent than their Caucasian counterparts, by holding a belief that intelligence is malleable, increased performance. Also, Aronson et al. reported that responding in such a way increased reported feelings of enjoyment out of school, more identification with academics, and higher grades.

In the study, three groups of African-American and Caucasian (both male and female) undergraduates participated, 109 students total. Students were asked to write letters to pen-pals who were depicted as middle school students who were having difficulty in school. The participants did not know that the letters were fictionalized. One group participated in an intervention. Participants in this condition were asked to write a reply that would encourage their pen pals to work hard in spite of their difficulties.

Participants were told that it would be particularly helpful to incorporate a theme stressing that intelligence was expandable. Participants were shown a video clip that reinforced this position. There were two control groups, one that participated in the same intervention with a different intelligence orientation (control pen pal condition). This group was asked to respond in a way that emphasized that intelligence is not a single entity, but rather composed of many different talents, and, as a result, every person has both intellectual strengths and weaknesses. The third group did not participate in the intervention (non pen pal condition).

Aronson et al. (2001) found that African American students in the pen-pal intervention group had an enduring and beneficial change in their own attitudes about intelligence, even after nine weeks. This had positive effects on their academics as well. Compared to their Caucasian counterparts in either of the two control conditions, African Americans reported enjoying and valuing academics more and they received higher grades. The intervention had some of the same positive effects for Caucasian students, however, for the Caucasian students, attitude change did not persist.

The research of Aronson et al. (2001) relied heavily on social psychological literature on persuasion and dissonance reduction. Aronson et al. noted that research, particularly within the dissonance and self-perception theory traditions, suggests that attitude change is greatly fostered by getting people to publicly advocate a particular position in their own words. Public commitment has been shown to increase acceptance of the position advocated, and once formed, attitudes persevere and remain resistant to change if they are validated by the message recipient's own experiences (Myers, 2005).

Another method of dealing with stereotype threat is denial. Many researchers have noted that stereotype threat operates by diminishing the self in the eyes of others (Inzlicht & Good, 2006; Osborne, 2001; Steele & Aronson, 1995). Therefore, when people are confronted with a threat to their self-integrity, one method to cope with stereotype threat would be to engage in techniques that reestablish the integrity of the self, such as denial (von Hippel, von Hippel, Conway, Schooler, & Radvansky, 2005).

von Hippel et al. (2005) defined denial, as it relates to stereotype threat, as a voluntary process whereby the individual rejects the accuracy of the stereotype, at least insofar as how it describes the self. Additionally, von Hippel et al. stated that stereotype denial is mitigated by impression management. Impression management is the process through which an individual maintains his or her self-concept by denying negative attributes and claiming positive ones. This implies that individuals who are high in impression management would be more likely to deny negative stereotypes. von Hippel et al. found that African Americans who were highly concerned with impression management were more likely than African Americans who were relatively unconcerned with impression management to claim to be more intelligent than they were when stereotype threat was induced. These findings indicated that those African Americans who are high in impression management are more likely to deal with stereotype threat by using denial than are those African Americans who are lower in impression management. Similar to von Hippel et al. and the theory of impression management, Inzlicht, Aronson, Good & McKay (2004) noted that self-monitoring (the desire and ability to control one's expressions in order to project a desired public image) is a quality that can inure individuals from stereotype threat, effectively making them resilient to its negative

effects. High self-monitors, dispositionally concerned with and able to monitor and control their behaviors, tended to perform better in threatening situations than low self-monitors.

Croizet, Desert, Dutrevis, & Leyens (2001) suggested another way that individuals deal with stereotype threat: altering the way that they categorize themselves and view their self-identity. Croizet et al. conducted a prototypical study of stereotype threat where performance in a stereotype threat group was compared to performance in a non-threatened group. Croizet et al. found that performance in the threatened group was more impaired than for the non-threatened group; however for those individuals in the threatened group who were given the opportunity to define themselves outside of the negative stereotype, there was no impairment. This study implies that stereotype threat may be mitigated by the activation of positive, non-stereotyped individual characteristics.

There has been considerable discussion about the definition of stereotype threat, the factors that affect the activation of stereotype threat, its negative consequences, and the measures that can be taken to cope with and mitigate stereotype threat. However, much of this discussion has stemmed from research that has investigated stereotype threat among African American college students as it operates at predominantly white institutions or in environments where the African American is in the numerical minority. There has been little research on stereotype threat as it operates among African American colleges students at HBCUs-environments where anxiety may be induced, not by number, but by less visible factors such as socialized racial self-consciousness.

It is important to investigate the variables that induce racial self-consciousness in HBCU environments for a number of reasons. HBCUs offer many academic advantages

for African American college students, and elucidating variables that impede academic performance in these uniquely nurturing environments could inform policy decisions that could further improve the HBCU academic experience. These improvements would have implications for African American college students such as increased retention rates and scholastic performance, further degree pursuit, higher earnings potential, attainment of occupational leadership roles, and ultimately, increased educational and occupational advancement potential. Therefore, this study will explore stereotype threat as it operates among African American college students at an HBCU.

HYPOTHESES

1). Researchers have found that, when there exists a negative stereotype about a particular group, and a group member must perform a task for which that group is negatively stereotyped, then the fear-induced anxiety of confirming the stereotype can degrade performance (Aronson, 2002; Aronson, Fried & Good, 2001; Steele & Aronson, 1995). There is a negative stereotype that African Americans are less intellectually capable than their Caucasian peers (Aronson, 2002). Therefore, it is hypothesized that African American participants in the high stereotype threat condition will perform worse than African American participants in the low stereotype threat condition.

2). It has been noted that non-cognitive variables are associated with academic motivation and persistence (Tracey & Sedlacek, 1987). Further, motivation and persistence is associated with academic performance (Cokley, 2003; Farver, Sedlacek & Brooks, 1975). Therefore, it is hypothesized that achievement motivation will predict performance.

3). Hughes et al. (2006) synthesized the literature on racial socialization and noted that racial socialization messages are complex and often designed to prepare the African American child for society by raising racial awareness and consciousness; educating about social inequities and injustices; preparing them for racial bias, and instilling racial pride. Reasoning that this cultural preparation and pride would have an impact on the negative consequences of stereotypes and stereotype threat, it was hypothesized that racial socialization would predict performance.

4). The research on the correlation between racial socialization and achievement motivation is sparse. However, Hughes et al. (2006) noted that racial socialization messages are complex and could include dimensions aimed to offer the student academic opportunities designed to encourage him/her to persist. Therefore, it is hypothesized that racial socialization will predict achievement motivation.

5). The present study aims to add to research regarding academic performance by looking at the combined impact of stereotype threat, achievement motivation and racial socialization. Prior research has looked at the individual impact of stereotype threat, achievement motivation and racial socialization on academic performance (e.g., Aronson, 2002; Cokley, 2003; Farver, Sedlacek & Brooks 1975; Hughes et al., 2006;Tracey & Sedlacek, 1987). Considering that each independent variable is reasoned to be correlated with achievement, the present study hypothesizes that stereotype threat, achievement motivation and racial socialization, collectively, will better predict performance than each variable individually.

METHOD

Participants

According to Green (1991), the number of participants required for adequate power using a regression analysis is $N \geq 104 + m$, where m is the number of individual predictors. Therefore, 107 participants were required for adequate power. Convenience sampling was utilized to recruit 108 participants. All participants were from a Middle Eastern university, and were, at least, in their second semester of school so that they had a reportable college grade point average. All participants were self-identified as African American. The majority of the participants, 40.74%, reported that they were in their senior year. The participants' mean age was 22.14 with a range of 17-47. The participants' mean GPA was between 2.1 and 2.5. And, participants' mean income was between $21,000 and $40,000.

Materials

Demographics

A brief demographic survey was given that requested self-reported racial classification, academic year, age, self-reported grade point average, and family income (Appendix A).

Academic Performance

The primary academic performance measure was a modified standardized test that encompassed 20 items sampled from the verbal subtest of the Graduate Record Examination preparation booklet. Items were drawn from a 20-item sample analogy test from Barron's How to Prepare for the GRE Graduate Record Examination 2007 16th Edition. Researchers on stereotype threat have tested academic performance similarly using between 20 and 27 verbal items borrowed from Graduate Record Examination

preparation Booklets (Croizet, Dutrevis & Desert, 2002; Inzlicht & Ben-Zeev, 2005; Pearson, 2006). The test was composed of analogies where the participants were asked to select the lettered pair that best expresses the relationship similar to that expressed in the original pair. An example item is SEDATIVE:DROWSINESS:: (as_____is to_____). Responses were chosen from the following: A) epidemic: contagious, B) vaccine: virus, C) laxative: drug, D) anesthetic :numbness, and E) therapy: psychosis (see Appendix B for complete test).

Stereotype threat was introduced in the verbal instructions given before the performance measure. Participants in the high stereotype threat condition had test instructions that indicated that the test was indicative of intellectual ability, while participants in the low stereotype threat condition had test instructions that indicated that the test was a measure of cognition that was demonstrated to be culturally fair in pilot studies. See Appendix C for the stereotype threat condition verbal prompts.

Achievement Motivation

Achievement motivation was measured by the Noncognitive Questionnaire (NCQ) (Tracey & Sedlacek, 1984) (Appendix D). Prior research has shown the NCQ to be content valid, highly predictive of grades, persistence and academic motivation (Tracey & Sedlacek, 1984, 1985). The NCQ has 2 demographic questions, 3 open-ended questions and 17 questions that are scored on a 5-point Likert type scale. Sedlacek (2004) has developed a standard scoring system for the Likert items as well as the open-ended questions. Each open-ended question assesses for one or more non-cognitive variables. For example, item 7 asks, "please list groups belonged to (formal or informal) and offices held (if any) in your high school, college or community". This question assesses for

Leadership, Community Service, and Knowledge Acquired in a Field. Each of the participant's responses receives a score of 1-3 for each non-cognitive variable based Sedlacek's criteria for each question. Each closed ended question is scored on a 5-point Likert type scale and assesses for one non-cognitive variable. For example, item 9 "It should not be very hard to get a B (3.0) average at this school" assess for Realistic Self-Appraisal. To see which non-cognitive variables are assessed by which questions (as well as the direction of the scoring) see Appendix D.

Tracey and Sedlacek (1984) performed two basic sets of analyses for the NCQ using two different samples of freshmen (i.e., 1979 and 1980) (1,339 white and 190 black; 355 white and 89 black respectively) from a large eastern university. The first analysis consisted of a principal component factor analysis to ascertain whether the NCQ items loaded on their proposed noncognitive factors. Additionally, separate analyses were done on each race. A stepwise multiple regression was performed to establish the predictive validity of the NCQ and SAT scores on GPA (during the student's first and third semesters). These analyses were performed on each race/semester subsample. The predictive validity of the NCQ and SAT scores on persistence was examined using stepwise discriminant analysis.

The results of the principal component analysis showed similar structures for each racial group and the results demonstrated support for the noncognitive variables that was consistent across racial groups. Additionally, Tracey and Sedlacek (1984) found that in the multiple regression, the NCQ items were either very similar to or more highly predictive than SAT scores alone, and when NCQ was combined with SAT scores, the predictive value increased-this held across races (i.e., Multiple R NCQ only-.29-.48;

Multiple R SAT only.33-.41; Multiple R NCQ and SAT .41-.59). This finding was also found by Tracey and Sedlacek (1985) in a later study.

Racial Socialization

Many researchers (e.g., Thompson, Anderson & Bakeman, 2000; Bynum, Burton & Best, 2007) have measured racial socialization in a college sample using Teenager Experience of Racial Socialization Scale (TERS) (Stevenson et al., 2002). The TERS is a 40-item scale that assesses the quality and frequency of racial socialization messages that participants may have received from parents or caregivers (see Appendix E). The higher the score that a participant receives on this scale, then the more racial messages that the participant has received from his or her parents or caregivers. The TERS was developed by conducting a principle component analysis on the data obtained from 260 inner-city African American adolescents (mean age 14.3years, 136 females and 124 males) who were part of a larger study attempting to discern the relationship between family support and racial socialization attitudes.

This scale has five factors which include: Cultural Coping with Antagonism (CCA) (e.g., "Families who talk openly about religion or God will help you live a good life") reflects the relative importance of overcoming racial hostilities through spirituality and religion; Cultural Pride Reinforcement (CPR) (e.g., "You should be proud to be black") reflects messages of pride instilled in children; Cultural Appreciation Legacy (CLA) (e.g., "Knowing your African heritage is important to your survival") reflects knowledge and appreciation of African American heritage; Cultural Alertness to Discrimination (CAD) (e.g., "A black child or teenager will be harassed just because s/he is black") assesses awareness of racism and challenges to having healthy race relations;

Cultural Endorsement of the Mainstream (CEM) (e.g., "American society is fair toward black people") reflects the importance of majority culture as well as the benefits of involvement in this culture. Participants respond on a 3-point Likert format (1=never; 2=a few times, 3=lots of times). Cronbach's alpha for the TERS is .91. The mean is 85.9 (SD=14.9). The reliability for the factors is as follows (CCA: alpha=.85, M=25.0, SD=5.8; CPR: alpha=.83, M=21.7, SD=4.5; CAD: alpha=.76, M= 12.2, SD= 3.3; CLA: alpha= .74, M= 12.8, SD= 3.1; CEM: alpha= .71, M=9.9, SD=2.8) (Stevenson et al., 2002).

The TERS has shown convergent validity for family communication about race and family and personal experiences about race. Stevenson et al. (2002) performed a MANOVA with the independent variables of family communication about race, measured by types of racial messages imparted, and gender and the dependent variables which were the five factors of the TERS. Stevenson et al. found that family communication about race was influential on nearly all of the TERS factors (except alertness to discrimination). Additionally, Stevenson et al. found that the TERS demonstrated divergent validity from the Scale of Racial Socialization- Adolescent, which is an established valid measure that assesses racial socialization beliefs of African American youth. Stevenson et al. asserted that racial socialization beliefs, like any other belief, unreliably correspond to behavior. Therefore, it was suspected that TERS (a measure of racial socialization behaviors) should have a low correlation to the SORS-A. Stevenson et al. conducted a correlational analysis with 172 students (apart from their original sample) and found that the SORS-A and TERS were not significantly correlated ($r = -.16-.35$).

Achievement

Achievement was measured by self-reported grade point average on a 4.0 scale. Many researchers have measured achievement using measures such as grades, test scores (e.g., SAT, ACT) and GPA (e.g., Cokley, 2002; McDermott, Mordell & Stoltzfus, 2001; Thompson, Zamboanga, 2004).

Procedure

The study was approved by the Human Subjects Committee. Next, psychology professors were contacted both directly and through email to inform them of the study, solicit participation of the students in their classes, and offer them contact information of the researcher should they have further questions. Subsequently, the participants all gave their individual informed consent to participate. The participants' responses remained anonymous. They were only required to submit minimal demographic information (i.e., race, student classification, GPA, and approximate income), and they were assigned a participant ID number that was associated with their study information. In order to reduce experimenter bias, the experiment was conducted by volunteer graduate psychology research assistants. The graduate assistants were 2 African Americans (1 Male, 1 Female) and 2 Caucasians (1 Male, 1 Female). These research assistants were randomly assigned to proctor either the high or low stereotype threat conditions by the experimenter. For each study trial, the experimenter arbitrarily numbered the research assistants (i.e., 1 and 2) and utilized a random number generator (i.e., 1 = low stereotype threat condition, and 2 = high stereotype threat condition) to assign the assistants to each study condition.

All participants first completed an informed consent form (see Appendix F). This form attained the participant's permission to participate in the study. It described the purpose of the study, risks and benefits, confidentiality, and participants' right to withdraw. For each test condition, the researcher had prepared a group of study packets containing the measures. Within each study packet, the analogies measure appeared first. The NCQ, TERS and demographics form appeared after the analogies measure. The NCQ and TERS were counterbalanced for order, and therefore appeared in a different order within each packet. The group of packets were numbered, and then randomly ordered using a random number generator. Participants were randomly distributed a numbered packet. The even numbered and odd numbered packets corresponded to counterbalanced high and low stereotype threat conditions (i.e., for one study condition, the even numbered packets would correspond to those participants who would receive the high stereotype threat condition, while for another study condition, the even numbered packets might correspond to those participants who would receive the low stereotype threat condition). Based on the packet numbers (i.e., even versus odd) the threat conditions were separated into different rooms. Next the threat condition was induced (see Appendix C for threat condition prompts). Participants then completed a paper and pencil academic measure (i.e., analogies) followed by the remainder of the packet. Participants were then debriefed about the study and asked to keep their participation confidential for fear of influencing future test conditions (Appendix G). Participants were given the option of submitting their contact information to enter into a raffle to win a $50 VISA gift card as a compensation for their participation. All measures were scored by the experimenter.

RESULTS

Before the performance of any analyses, the data was evaluated for assumptions and to ensure the randomization of variables between the stereotype threat conditions. Cases with missing data were deleted (N = 14). The data was normally distributed with no outliers and values for skewness and kurtosis were within acceptable limits (+/-2). There were no major group differences among the global study variables of racial socialization and achievement motivation. See Table 1 for descriptive statistics for the study variables.

However, there was one significant group difference among the subscale, Long Range Goals, on the Noncognitive Questionnaire. Participants in the high threat condition (M = 9.43) reported more long range goals than participants in the low threat condition (M = 8.52), t (106) =.55, p =.01 (Table 2). Additionally, a chi-square analysis revealed a statistically significant difference for Major. The observed values for student major differed significantly from the expected values, X^2 (5) = 14.27, p = .01 (Table 3). That is, there were statistically significantly more Engineering majors in the high stereotype threat condition than the low stereotype threat condition.

Table 1
Descriptive Statistics for Study Variables by Threat Conditions

	Measure Range	Low ST			High ST			Total		
		M	SD	Range	M	SD	Range	M	SD	Range
Age		22.26	5.66	17-47	22.02	4.77	17-41	22.14	5.21	17-47
GPA	0-6	3.70	1.01	1-6	3.59	.89	1-5	3.65	.98	1-6
Income	1-4	2.33	1.13	1-4	2.37	1.12	1-4	2.35	1.12	1-4
NCQ	26-120	87.30	7.63	76-108	88.63	6.37	76-101	87.96	7.03	76-108
Self Concept	7-26	18.91	2.88	2-8	19.17	2.50	12-23	19.04	2.73	12-24
Self Appraisal	4-14	9.54	1.75	6-14	9.44	1.69	6-14	9.49	1.71	6-14
Racism	5-25	17.00	2.47	13-23	17.04	3.07	8-24	17.02	2.77	8-24
Long Range Goals	3-13	8.52	1.79	4-12	9.43	1.57	5-13	8.97	1.74	4-13
Strong Support	3-15	13.65	1.62	9-15	13.24	1.67	9-15	13.44	1.65	9-15
Leadership	2-13	9.69	1.61	6-13	10.15	1.71	5-13	9.92	1.67	5-13
Community Service	1-8	5.61	1.46	2-8	5.93	1.30	2-8	5.77	1.39	2-8
Knowledge	1-6	4.15	1.27	1-6	4.24	1.03	2-6	4.19	1.15	1-6
TERS	42-126	80.78	11.76	49-95	80.19	11.38	41-98	80.48	11.52	41-98
CCA	13-39	29.26	6.21	15-38	29.30	5.35	14-38	29.28	5.77	14-38
CPR	9-27	23.96	2.48	15-27	23.59	3.22	11-27	23.78	2.87	11-27
CLA	9-27	14.31	2.67	7-19	14.00	3.30	7-19	14.16	2.99	7-19
CAD	6-18	13.24	3.13	6-18	13.37	2.86	7-18	13.31	2.98	6-18
CEM	5-15	8.04	2.12	5-14	8.61	2.32	6-15	8.32	2.23	5-15
Performance	0-20	4.98	2.07	1-9	5.22	3.06	1-12	5.10	2.61	1-12

Note: CCA-Cultural Coping with Antagonism; CPR-Cultural Pride Reinforcement; CLA-Cultural Appreciation Legacy; CAD-Cultural Alertness to Discrimination; CEM-Cultural Endorsement of the Mainstream. "Strong Support" is an abbreviation for the subscale "Availability of Strong Support". "Racism" denotes the subscale, Ability to understand and deal with racism. GPA and Income were Dummy Coded: (0=Less than 1.0, 1= 1.0-1.5, 2= 1.6-2.0, 3= 2.1-2.5, 4=2.6-3.0, 5= 3.1-3.5, 6= 3.6 or more); Income (1= 20,000 or less, 2= 21,000-40,000, 3= 41,000-60,000, 4= 61,000 or more.

Table 2

Comparison of Study Variables by Threat Condition

Variable		F	t	p
NCQ		1.23	-.99	.32, *ns*
	Self Concept	.79	-.49	.62, *ns*
	Self-Appraisal	.12	.28	.78, *ns*
	Racism	.05	-.07	.95, *ns*
	Long Range Goals	.56	-2.8	.01*
	Availability of Strong Support	.06	1.29	.20, *ns*
	Leadership	.07	-1.45	.15, *ns*
	Community Service	.97	-.1.18	.24, *ns*
	Knowledge	2.33	-.42	.68, *ns*
TERS		.00	.27	.79, *ns*
	CCA	.95	-.03	.97, *ns*
	CPR	.88	.67	.51, *ns*
	CLA	7.16	.55	.59, *ns*
	CAD	.72	-.23	.82, *ns*
	CEM	.93	-1.34	.18, *ns*
Age		.46	.24	.81, *ns*
Income		.08	-.17	.87, *ns*
GPA		1.34	.59	.56, *ns*

Note: CCA-Cultural Coping with Antagonism; CPR-Cultural Pride Reinforcement; CLA-Cultural Appreciation Legacy; CAD-Cultural Alertness to Discrimination; CEM-Cultural Endorsement of the Mainstream. "Racism" denotes the subscale, Ability to understand and deal with racism. * indicates analyses that are statistically significant.

Table 3

Chi Square Analysis of Gender, Class and Major by Threat

Variable	Low(O-E)		High(O-E)		X^2	p
	O	E	O	E		
Gender					3.03	.08, ns
Male	20	24.5(-4.5)	29	24.5(4.5)		
Female	34	24.5(4.5)	25	29.5(-4.5)		
Class					.81	.85, ns
Freshman	18	16.5(1.5)	15	16.5(-1.5)		
Sophomore	4	5(-1)	6	5(1)		
Junior	11	10.5(.5)	10	10.5(-.5)		
Senior	21	22(-1)	23	22(1)		
Major					14.27	.01*
Undecided	20	17.5(2.5)	15	17.5(-2.5)		
Psychology	21	19.5(1.5)	18	19.5(-1.5)		
Bio/Chem.	0	2(-2)	4	2(2)		
Engineering	4	9(-5)	14	9(5)		
Criminal Justice	3	2.5(.5)	2	2.5(-.5)		
Interdiscp.	6	3.5(2.5)	1	3.5(-2.5)		

Note: "O" is an abbreviation for observed value; "E" is an abbreviation for Expected value. "O-E" denotes the deviation of observed and expected values. "Low" denotes Low Stereotype Threat condition. "H" denotes high stereotype threat condition. "Bio/Chem." is an abbreviation for Biology/Chemistry; "Interdiscp." is an abbreviation for Interdisciplinary Studies. *indicates analyses that are statistically significant.

Gender and Class were dummy coded: Gender (1=Male, 2=Female); Class (1=Freshman, 2=Sophomore, 3=Junior, 4=Senior).

Hypothesis 1: Participants in the high stereotype threat condition will perform worse than participants in the low stereotype threat condition.

A *t* test was performed to determine if those participants in the high stereotype threat condition significantly differed from those in the low stereotype threat condition on the measure of performance. The results, t (93.04) = -.48, *ns* revealed that the performance of those participants in the high stereotype threat condition (M = 5.22) was not significantly different than those participants in the low stereotype threat condition (M = 4.98). See Table 1 for descriptive statistics for the study variables within each threat condition.

Hypothesis 2: Achievement Motivation will predict Performance

A linear regression analysis was performed to test the hypothesis using achievement motivation as the independent variable and academic performance as the dependent variable. The mean level of achievement motivation as scored by the NCQ, was 87.96 while the mean level of academic performance was 5.10. Achievement motivation was not a significant predictor of academic performance, F *(1, 106)* = 2.30, p = .13, *ns* (Table 4). Only 2.1% of the variance in academic performance could be explained by achievement motivation. A further analysis of the descriptive statistics for the subscales of the motivation measure is depicted in Table 1.

Table 4
Socialization and Motivation on Performance

Variable	R^2	F	B	$SE\,B$	β	t	p
Achievement Motivation	.021	2.30	.05	.04	.15	1.52	.13, *ns*
Racial Socialization	.03	3.54	-.04	.02	-.18	-1.88	.06, *ns*

Additional Analyses

Further analyses of the subscales of achievement motivation, as measured by the NCQ, and their predictive ability on academic performance indicated a significant relationship between self-appraisal and performance, F *(1, 106)* = 3.97, p = .05. Self-appraisal was a statistically significant predictor of academic performance (Table 5).

Table 5
Dimensions of Motivation on Performance

Variable	R^2	F	B	$SE\,B$	β	t	p
Self Concept	.00	.05	.02	.09	.02	.21	.83, ns
Realistic Self Appraisal	.04	3.97	.29	.15	.19	2.00	.05*
Racism	.01	.60	.07	.09	.08	.77	.44, ns
Preference for Long Range Goals	.00	.09	-.04	.15	-.03	-.29	.77, ns
Availability of Strong Support	.00	.29	-.08	.15	-.05	-.54	.59, ns
Leadership Experience	.01	1.04	.15	.15	.10	1.02	.31, ns
Community Service	.01	1.01	.18	.18	.10	1.01	.32, ns
Knowledge	.02	1.94	.30	.22	.13	1.39	.17, ns

Note: * indicate analyses that are statistically significant.
"Racism" denotes the subscale, "Ability to understand and deal with racism".

Hypothesis 3: Racial Socialization will predict Performance

The third statistic performed was a simple linear regression between racial socialization as the independent variable and academic performance as the dependent variable. Racial socialization was not a statistically significant predictor of academic performance, $F\,(1,\,106)$ = 3.54, p = .06, ns. Only 3.2% of the variance in academic performance was explained by racial socialization (Table 4).

Additional Analyses

Further comparisons between the sub-dimensions of racial socialization as measured by the Teenager Experience of Racial Socialization Scale (TERS) revealed a statistically significant relationship between Cultural Appreciation Legacy (CLA) and academic performance, $F\,(1,\,106)$ = 3.90, p = .05. Four percent of the variance in academic performance was explained by how much knowledge and appreciation a student has for African American heritage (Table 6).

Table 6
Dimensions of Socialization on Performance

Variable	R^2	F	B	SE B	β	t	p
CCA	.02	2.40	-.07	.04	-.15	-1.55	.13
CPR	.00	1.01	.09	.09	-.10	-1.00	.32
CLA	.04	3.97	-.16	.08	-.19	-2.00	.05*
CAD	.00	.15	-.03	.09	-.04	-.39	.70
CEM	.03	3.33	.20	.11	.18	1.83	.07

Note: CCA-Cultural Coping with Antagonism; CPR-Cultural Pride Reinforcement; CLA-Cultural Appreciation Legacy; CAD-Cultural Alertness to Discrimination; CEM-Cultural Endorsement of the Mainstream. * indicates analyses that are statistically significant.

Hypothesis 4: Racial Socialization will predict Achievement Motivation

A simple linear regression was conducted between racial socialization as the independent variable and achievement motivation as the dependent variable. Racial socialization was not a significant predictor of achievement motivation,

$F (1, 106)$ = 3.02, p = .09, ns. Only 3.0% of the variance in achievement motivation could be explained by racial socialization (Table 7).

Table 7
Socialization on Motivation

Variable	R^2	F	B	SE B	β	t	p
Racial Socialization	.03	3.02	.10	.06	.17	1.74	.09, ns

Hypothesis 5: Stereotype threat, achievement motivation and racial socialization, taken together, will better predicate performance than each variable individually.

Prior to running the analysis, bivariate correlations were conducted between each of the predictor variables to ensure that the variables were not multicollinear.

Table 8
Correlation Matrix of Socialization, Motivation and Threat

	Motivation	Socialization	Threat
Motivation	1.00	.17	.10
Socialization	-	1.00	-.03
Threat	-	-	1.00

Note: Statistics are Pearson correlations.

The results of the analyses indicated that there were no significant relationships between the predictor variables (Table 8). A multiple regression was performed with achievement motivation, racial socialization and stereotype threat as the independent variables and performance as the dependent variable. The regression was performed to see if achievement motivation, racial socialization and stereotype threat were better predictors of performance than each variable independently. The analysis revealed that the model was not significant (R = .25) (F (3, 104) = 2.40, p = .07, *ns*)) (Table 9). Only 7% of the variance in performance can be explained by achievement motivation, racial socialization and stereotype threat together.

Table 9
Motivation, Socialization and Threat on Performance

Variable	R^2	F	B	SE B	β	t	p
M/S/T	.07	2.40	.10	.06	.17	1.74	.09, *ns*
Motivation			.07	.04	.18	1.84	.67, *ns*
Socialization			-.05	.02	-.21	-2.17	.03*
Threat Condition			.13	.50	.02	.25	.80, *ns*

Note. M=Motivation, S=Socialization, T= Stereotype Threat Condition
*indicates analyses that are statistically significant.

Additional Analyses

A stepwise multiple regression was performed with performance as the dependent variable to determine how much additional variance in performance was accounted for by racial socialization. Motivation and threat condition were entered in the first step, and racial

socialization was entered in the second step. The overall analysis was not significant, indicating that motivation, socialization and threat were not better collective predictors of performance than either variable singly. The stepwise multiple regression indicated that the analysis for socialization was significant. Socialization accounted for an additional 4.2% of the overall 7% variance in performance, $F(3, 104) = 2.40, p = .03$.

DISCUSSION

The objectives of this study were: (a) to explore the relationship of academic performance and stereotype threat; (b) to examine the relationship between achievement motivation and academic performance, (c) to explore the relationship between racial socialization and performance, (d) to investigate the relationship between racial socialization and achievement motivation (e) to explore if stereotype threat, achievement motivation and racial socialization, combined are better predictors of academic performance than either construct alone.

Academic Performance and Stereotype Threat

In the present study, academic performance was not related to stereotype threat. Participants who were in the high stereotype threat condition did not perform worse on the analogy academic measure than those participants in the low stereotype threat condition. This finding is contrary to stereotype threat theory, which suggests that performance is degraded when a group member must perform a task for which that group is negatively stereotyped (Steele & Aronson, 1995). This finding that academic performance was not degraded in the stereotype threat condition could be indicative of a number of explanations.

Prior research on the effect of stereotype threat on the academic performance of African American students has looked at the mitigating impact of proctor race. Pearson (2006)

conducted a study on stereotype threat and race salience as possible mediators of academic performance. Pearson defined race salience as the phenomenon occurring when the racial composition of a testing environment (esp. proctor) serves as a prompt toward greater awareness of negative stereotypes, which serves to induce performance-degrading anxiety. Pearson found a signficant effect of stereotype threat activation (and degraded academic performance) for white proctors over African American proctors.

In the present study, the majority of the threat conditions, both high stereotype threat and low stereotype threat, were proctored by African American proctors. Considering the findings from Pearson's study, the present study may not have had significant difference in performance between the threat conditions because the primary utilization of African American proctors may not have sufficently activated stereotype threat in the participants.

Another possible explaination for the similarity in performance among the stereotype threat conditions is that the HBCU insulated African American students' perfomance from the deleterous consequences of stereotype threat. Greer (2003) noted that students at both HBCUs and PWIs experience percieved racism. However researchers have noted that, for African American college students, it is their relationship with faculty members, (esp. African American) which is key in improving their ability to cope with these experiences to succeed academically (Edwards, 2007; Smith 2003). Steinfeldt (2007) conducted a study examining African American student adjustment to the college environment. Steinfeldt found that students at HBCUs reported higher social adjustment, regardless of racial identity, attibutable to the inclusive nurturing environment of the HBCU.

A final explaination for the failure of the study to find significant differences in performance between the stereotype threat conditions could be an effect of the participants. The

independent *t* test was significant for Long Range Goals, a subscale of the NCQ indicating that participants in the high stereotype threat condition reported more long range goals than participants in the low stereotype threat condition. Additionally, the chi square analysis for "Major" was signfiicant indicating that major and stereotype threat condition were not independent of one another. Most notable, there was a disproportionate number of Engineering majors among the high stereotype threat condition. Perhaps the reason why the participants in the high stereotype threat condition did not experience degraded performance could be because of their educational background (i.e., Engineering). The educational background of engineering majors is intense in advanced math and science courses. It is possible that, through persisting in such a major, the student has developed personality characteristics, such as self-confidence, self-motivation, and a long range perspective, that served to insulate them from the negative suggestions regarding their intellectual capabilities present in the high stereotype threat condition.

Achievement Motivation and Performance

In the present study, academic performance was not related to achievement motivation. This finding contradicts prior research which indicates that achievement motivation predicts academic performance for African American college students. For example, Caldwell (2007) conducted a study examining achievement motivation and academic performance for African American students at HBCUs. The results suggested that those students who were motivated toward succeeding, and who were also identified with academia, performed at higher levels than those who were less motivated and identified with academia.

Although the results of the analysis revealed that performance was not dependent upon achievement motivation, further analyses revealed a relationship between a sub-dimension of

motivation and performance. When performing analyses between the different dimensions of achievement motivation, as measured by the NCQ and performance, results revealed a relationship between realistic self-appraisal and academic performance. Farver, Sedlacek and Brooks (1975) defined realistic self-appraisal as the student's acknowledgement and acceptance of any academic or background deficiencies and attempts to work hard at self-development. So, the more that a student strives to improve his or her academic deficiencies, then the more that the student subsequently achieves. As earlier mentioned, Gardner (1995) noted a relationship between realistic self-appraisal and academic performance. Along these lines, Trippi (1989) conducted a study assessing for the relationship of academic self-appraisal to performance and persistence. Trippi, like the present study, found that self-appraisal served as a significant predictor of African American student's performance and persistence.

One explanation for the failure of the present study to find significant results between the overall measure of achievement motivation could be an artifact of how the participants responded on the Noncognitive Questionnaire (NCQ). When examining the pattern of participant responding on the NCQ, it became evident that the majority of the participants endorsed that they were highly motivated toward academia. Statistically speaking, there was a ceiling effect on the overall score on the NCQ. Although the NCQ ranges from a score of 26-120, the most common response from the participants in the present sample was 90 with a range from 76-108. So, the participant responses decreased variability in the achievement motivation measure to such a degree that it was difficult to find a linear relationship between it and performance.

This effect can be explained by the phenomena of self-monitoring and social desirability. As earlier mentioned, Good & McKay (2004) noted that self-monitoring is the desire and ability to control one's expressions in order to project a desired public image. Social desirability is a

response set geared to presenting oneself in a socially acceptable manner (Gordon, 2007). It seems plausible that the sample exaggerated their achievement motivation, especially in light of the relatively average GPA reported (i.e., 2.1-2.5) in order to project a positive public image.

Although the results of the present study may be explainable as an artifact of response style, research suggests that the results could be a consequence of a true high level of achievement motivation. Research has suggested that African American students who attend HBCUs have typically received more racial socialization messages than their counterparts who attend PWIs (Hudgins, 2005). Further, those African Americans who have received these messages tend to be more ethnically identified and have higher achievement goals than their less socialized and identified peers (Kovach, 2002). Therefore, the sample obtained in the present study could simply be a cross section of the African American students attending HBCUs who are reportedly more socialized, ethnically identified and academically oriented. Additionally, the entirety of the sample was obtained from on-campus summer session classes. Considering that few of the students reported GPAs indicative of academic failure (i.e., 2.1-2.5), it is likely that the students were voluntarily enrolled in courses and not out of academic necessity. This would imply that the sample from this study may be more highly academically motivated than their traditional peers.

Racial Socialization and Performance

It was hypothesized that racial socialization would predict performance, however the present study found that racial socialization was not a significant predictor of academic performance. Although the overall statistic was not significant, further analyses revealed a relationship between a subscale of the TERS, Cultural Appreciation Legacy (CLA), and performance. What was notable about this relationship was that the direction was contrary to

that hypothesized. It was hypothesized that the more racial socialization messages a child receives, then the better his/her academic performance would be. However, the present study found that the more CLA messages a child received about African American culture and history, then the worse his/her academic performance tended to be.

Contrary to the present study findings, prior research has suggested that racial socialization messages improve performance acting as a buffer to psychological and academic stress (Bynum, Burton, & Best, 2007; Hughes et al., 2006). More specifically, certain types of socialization messages may lessen the African American student's vulnerability to stereotypes about their group's intellectual capabilities, which could have positive consequences for achievement; and socialization messages might impact how the student construes his or her academic goals per racial identity; and socialization messages may contain messages about academic opportunity which could increase achievement motivation (Hughes et al.).

The only caveat to this finding was in relation to age. Hughes et al. (2006) found that, for early and middle childhood individuals, high reports of socialization messages were correlated with lower report card grades. Other researchers have echoed the complex nature of racial socialization and the possible negative impact that it could have on academic performance. Anglin (2004), Brody et al. (2006), Cooper (2006) and Hill (2005) noted the intent of racial socialization to prepare the African American child for society, but also mentioned the possible negative consequence of decreasing academic performance by increasing the child's perception of discrimination. So, although racial socialization messages may often be intended to protect the African American child from the negative consequences of stereotype threat and discrimination, if the messages are laden with certain negative aspects of African American

history (i.e., discrimination and segregation) such as CLA that might increase the child's perception of discrimination, then there could be negative consequences for performance.

Additional comparisons between the sub-scales of the TERS and academic performance suggested that another sub-dimension of racial socialization, Cultural Endorsement of the Mainstream, may be important to further investigate in future studies to determine if it has an influence on racial socialization. Although the present study did not find significant relationships for CEM and performance, it is notable that prior research has suggested the important contribution that this particular dimension of socialization messages may have on performance.

Ogbu's (1997) and the "Acting White theory" suggests the role that both disidentifying with the mainstream culture, and identifying with African American legacy, may play in academic performance. According to Ogbu, some African American students do poorly in school because academia is associated with the mainstream culture, therefore, high achievement among African American students would be considered "acting white". Ogbu suggested that associating one's self with an African American history, culture and identity, would increase the likelihood of academic disidentification and subsequent low achievement. Further, associating one's self with the mainstream culture would identify one's self with academia and academic success. Along these lines, the present study found a relationship between associating one's self with African American culture (i.e., CLA) and decreased academic performance. Ogbu's theory further suggests that perhaps the dimensions of CLA and CEM, acting in tandem better predict academic performance. The present study, therefore, suggests that racial socialization is a complex process. And, in order to obtain a clear picture of the impact of socialization messages on academic performance, specific socialization messages could be examined, for different socialization messages could have vastly different consequences for academic performance.

Racial Socialization and Achievement Motivation

In the present study, analyses indicated that achievement motivation was not dependent upon racial socialization. Higher reported levels of socialization did not translate into higher levels of achievement motivation.

This finding is contrary to prior research with African American students across the academic lifespan, which has indicated that racial socialization is a significant predictor of achievement motivation. For example, Miller (2001) examined the impact of ecological and cultural variables (e.g., racial socialization, experiences of racism) on general achievement motivation in African American high school students. Miller found that racial socialization was significantly related to achievement motivation. Specifically, those students receiving more racial socialization messages tended to have higher levels of achievement motivation and persistence. Additionally, Brooks (2006) conducted a study to test a resiliency model of African American college student achievement. Brooks sampled 289 African American college students and assessed their racial socialization, racial identity, attributional processes, achievement motivation and academic achievement to determine which variables influenced academic achievement/motivation and the processes by which this influence operated. Brooks found that racial identity was a strong predictor of achievement and motivation. However, racial identity attitudes was further influenced by racial socialization messages which functioned to influence student's academic achievement motivation and subsequence achievement.

A possible explanation for the failure of the present study to find significant results could be an effect of how the participants endorsed the NCQ. As earlier mentioned, a social desirability effect, or genuine response pattern was noted in the participants' response to the NCQ where many of the participants reported high levels of achievement motivation. The lack of variability

in this scale may have diminished the ability to determine a linear relationship with racial socialization.

Threat, Motivation, Socialization and Performance

The analysis investigated the relationship between the independent variables in combination and the dependent variable to determine if the independent variables, in combination, were a better predictor of academic performance than any one independent variable singly. The analyses indicated that there was not a significant relationship between the variables, in combination, and academic performance.

Research has revealed a relationship between stereotype threat, achievement motivation, and racial socialization, independently, with academic performance (Steele & Aronson, 1995; Caldwell, 2007; Bynum, Burton, & Best, 2007). Therefore, in the present study, it was reasoned that the combined effect of these variables would have a greater predictive power on academic achievement than each one acting alone. However, in the present study, there were a number of previously mentioned factors in the independent analyses, which served to decrease the predictive power of the independent variables. These factors, operating in tandem, served to further decrease the combined predictive power of the independent variables acting together.

Despite this effect, it is important to note that racial socialization is an important variable to investigate in future studies to explore the role that it plays in academic performance. A stepwise multiple regression revealed that the statistic for socialization was significant and accounted for the majority of the predictive power of the combined variables suggesting that racial socialization messages may have a key role in predicting performance.

Clinical Implications

The measures used in this study are easy to administer, psychometrically sound and can be used in educational settings to assess racial socialization and achievement motivation (Stevenson et al., 2002; Tracey and Sedlacek, 1984). The results of this study suggest that the HBCU may play a role in influencing achievement motivation and academic performance for African American college students. Additionally, the present study pointed to the importance of future research efforts to explore the possible role that racial socialization messages may have in influencing academic performance for African American students at HBCUs. The present study pointed to the impact that endorsing a knowledge and appreciation of African American culture had on academic performance. However, because of the limitations of the present study, it was unable to be discerned if there was a larger, global relationship between racial socialization messages, or to sub-dimensions of socialization. Future research efforts could address these limitations to more clearly delineate the possible impact that socialization has on academic performance.

These study's findings are particularly applicable to the HBCU African American student population. They add to the body of evidence concerning the protective nature of the HBCU for African American students, as well as the importance of academic persistence and socialization experiences in improving educational outcomes. Further, with the ethnic minority academic population projected to reach majority status by the year 2035, the findings of this study reflect the importance of understanding the processes that enable African American students to successfully navigate academia (Hughes et al., 2006).

CONCLUSIONS AND LIMITATIONS

The sample utilized for this study consisted of entirely on-campus summer session students from one Middle Eastern HBCU. Students who elect to attend summer session classes might have unique characteristics that could have served to skew the study results. And, the participants were recruited through convenience sampling, so there is the possibility that the sample was not representative of the larger student body. Further, the present study pointed to the importance of evenly distributing students from different academic majors into each of the two study conditions. Future research could ameliorate the sampling issue by first sampling African American students from a number of different HBCUs during both traditional and summer terms. This would minimize the individual personality characteristic of students from one particular school, as well as increase the generalizability of the study results. Also, to address the issue concerning disproportionate numbers of students from academic majors in the study conditions, future research could stratify a random sample of students from specified academic majors.

The sample size was also a limitation in the present study. The minimal sample size needed to attain the adequate power was 107 students. After deleting incomplete or not applicable cases, the present study sampled up to 108 students. Future research may find more significant results by sampling a larger number of students.

The utilization of self-report questionnaires (i.e., TERS, NCQ) leaves the study open to the influence of social desirability and other reporting biases. The manner in which a student describes him/herself on a self-report measure may vary remarkably from his or her actual behaviors or feelings. Future research could explore the utilization of more concrete indices of socialization and noncognitive factors.

Additionally, the NCQ contains response portions that are open-ended. Although there is a scoring system for these responses, the scoring can become ambiguous for participant responses not delineated in the scoring guide. Experimenter error introduced in scoring these responses could have impacted the overall study results. Future research could utilize multiple scorers and mandate a high correlation of inter-rater reliability before the response is coded and entered for analysis.

Results from the study pointed to the possible impact of proctor race in activating stereotype threat. However, the present study did not tabulate experimenter race as it applied to stereotype threat condition, nor did it analyze the impact that experimenter race played in activating stereotype threat. In future research, a more thorough evaluation of race and stereotype threat condition/activation should be studied.

In closing, further research efforts should be directed toward developing strategies to assess the variables indicated as being important in predicting academic achievement for African American HBCU students. Additionally, from these assessments, programs should be developed to cultivate these particular variables to improve motivation, achievement and academic performance in the African American HBCU student population.

The present study also pointed to the possible association between racial socialization academic achievement and performance. Future research efforts could further investigate the specific nature of racial socialization messages that promote or impede academic achievement. Learning more about socialization's impact on achievement could assist in educating family and caregivers of their pivotal and primary role in improving achievement and could serve a preventative and fundamental function in decreasing African American student underachievement.

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APPENDIX A

DEMOGRAPHICS QUESTIONNAIRE

This sheet asks a number of demographic questions about you as well as your educational background. Please read each question and circle ONE response, or write in your answer where indicated.

1. What is your gender (Circle one)?
Male   Female

2. What is your age in years?

3. What is your ethnicity? (circle one)
Black (non Hispanic)

White (non Hispanic)

Asian or Pacific Islander

American Indian or Alaskan Native

Hispanic

Other (please specify)_____

4. What is your student classification? (circle one)
Freshman

        Which semester (circle one)
        First

        Second

        Other (please specify)_____
Sophomore
Junior
Senior

5. What is the average annual income of your primary care givers? (circle one)
20,000 or less
21,000-40,000
41,000-60,000
61,000 or more

6. What is your GPA on a 4.0 scale? (circle one)
Less than 1.0
1.0-1.5
1.6-2.0
2.1-2.5
2.6-3.0
3.1-3.5
3.6 or more

APPENDIX B

PERFORMANCE MEASURE

1. MASON : WALL ::
A) artist: easel
B) fisherman : trout
C) author : book
D) congressman : senator
E) sculptor : mallet

2. FIRE : ASHES ::
A) accident : delay
B) wood : splinters
C) water : waves
D) regret : melancholy
E) event : memories

3. GOOSE : GANDER ::
A) duck : drake
B) hen : chicken
C) sheep : flock
D) dog : kennel
E) horse : bridle

4. CARPENTER : SAW ::
A) stenographer : typewriter
B) painter : brush
C) lawyer : brief
D) seamstress : scissors
E) runner : sneakers

5. CAPTAIN : SHOAL ::
A) lawyer : litigation
B) pilot : radar
C) soldier : ambush
D) doctor : hospital
E) corporal : sergeant

6. HORNS: BULL ::
A) mane : lion
B) wattles : turkey
C) antlers : stag
D) hoofs : horse
E) wings : eagle

7. JUDGE: COURTHOUSE ::
A) carpenter : bench
B) lawyer : brief
C) architect : blueprint
D) physician : infirmary
E) landlord : studio

8. HELMET : HEAD ::
A) pedal : foot
B) gun : hand
C) breastplate : chest
D) pendant : neck
E) knapsack : back

9. GULLIBLE : DUPED ::
A) credible : cheated
B) careful : cautioned
C) malleable : molded
D) myopic : misled
E) articulate : silenced

10. DUNGEON : CONFINEMENT ::
A) church : chapel
B) school : truancy
C) asylum : refuge
D) hospital : mercy
E) courthouse : remorse

11. HERMIT : GREGARIOUS ::
A) miser : penurious
B) ascetic : hedonistic
C) coward : pusillanimous
D) scholar : literate
E) crab : crustacean

12. MENDACITY : HONESTY ::
A) courage : cravenness
B) truth : beauty
C) courage : fortitude
D) unsophistication : ingenuousness
E) turpitude : depravity

13. MARATHON : STAMINA ::
A) relay : independence
B) hurdle : perseverance
C) sprint : celerity
D) jog : weariness
E) ramble : directness

14. NAÏVE : INGENUE ::
A) ordinary : genius
B) venerable : celebrity
C) urbane : sophisticate
D) crafty : artisan
E) modest : braggart

15. RETOUCH : PHOTOGRAPH ::
A) hang : painting
B) finger : fabric
C) retract : statement
D) compose : melody
E) refine : style

16. INDIGENT : WEALTH ::
A) contented : happiness
B) aristocratic : stature
C) smug : complacency
D) emaciated : nourishment
E) variegated : variety

17. SHALE : GEOLOGIST ::
A) catacombs : entomologist
B) aster : botanist
C) obelisk : fireman
D) love : philologist
E) reef : astrologer

18. DIDACTIC : TEACH ::
A) sophomoric : learn
B) satiric : mock
C) reticent : complain
D) chaotic : rule
E) apologetic : deny

19. HACKNEYED : ORIGINAL ::
A) mature: juvenile
B) trite : morbid
C) withdrawn : reserved
D) evasive : elusive
E) derivative : traditional

20. AUGER : CARPENTER ::
A) studio : sculptor
B) awl : cobbler
C) seam : seamstress
D) cement : mason
E) apron : chef

Analogies Answer Key

1. C	6. C	11. B	16. D
2. E	7. D	12. A	17. B
3. A	8. C	13. C	18. B
4. D	9. C	14. C	19. A
5. C	10. C	15. E	20. B

APPENDIX C

VERBAL PROMPTS FOR STEREOTYPE THREAT CONDITIONS

High Stereotype Threat

Hello. My name is_____. I am a graduate student at Norfolk State University. I am conducting a study on Cognition. Specifically, I hope to use the data gathered from your results on a short verbal measure to help to develop a more culturally fair IQ test. A preliminary pilot study with these test items has shown the test to be culturally fair. You have been given a packet. The packet contains a number of instruments including a test of verbal abilities. It is important to note that the verbal test is extremely difficult so you should not expect to get many of the items correct. However, I urge you to try your best on each item. The packet also contains a short measure that asks about cultural experiences that you had while growing up and a measure that asks general questions about your background. . A final measure asks questions about your academic perceptions and experiences. It is important to complete the test items in the order in which they are presented in the packet. Please read the directions located at the top of all of the forms and please refrain from conversing with one another. If you should have any questions, please alert me and I will assist you. Do you have any questions?

Low Stereotype Threat

Hello. My name is_____. I am a graduate student at Norfolk State University. I am conducting a study on Cognition. As you may be well aware, there is a vast amount of research that has proven that standardized Cognitive tests are biased against African American students. That is, these standardized tests have been normed on predominantly Caucasian samples and therefore do not represent the experiences, or assess the knowledge base of the majority of African American individuals. Therefore, I hope to use the information gathered from this study to help to develop a test based on a nationally representative sample of African American's that demonstrate their true intellectual abilities.

You have been given a packet. The packet contains a number of instruments including a test of verbal abilities. It is important to note that the verbal test is extremely difficult so you should not expect to get many of the items correct. However, I urge you to try your best on each item. Remember, the results of this Cognitive Test will be utilized to develop a test that is based on nationally representative norms of African American's true abilities. The packet also contains a short measure that asks about cultural experiences that you had while growing up and a measure that asks general questions about your background. A final measure asks questions about your academic perceptions and experiences. It is important to complete the test items in the order in which they are presented in the packet. Please read the directions located at the top of all of the form and please refrain from conversing with one another. If you should have any questions, please alert me and I will assist you. Do you have any questions?

APPENDIX D

NONCOGNITVE QUESTIONNAIRE (NCQ)

Please fill in the blank or circle the appropriate answers.
1. Your sex is : M   F
2. Your race is:
3. How much education do you expect to get during your lifetime?
      A. College, but less than a bachelor's degree
      B. B.A. or equivalent
      C. One or two years of graduate or professional study (master's degree)
      D. Doctoral degree such as M.D., Ph.D.
4. About 50 percent of college students typically leave before finishing a program. If this had happened to you, what would have been the most likely reason or cause?
      a. Absolutely certain that I would finish
      b. To accept a good job
      c. To enter the military service
      d. It would cost more than my family or I could afford
      e. Marriage
      f. Disinterest in study
      g. Lack of academic ability
      h. Insufficient reading or study skills
      i. Other
5. Please list three goals that you have for yourself right now:
      A.
      B.
      C.
6. Please list three things that you are proud of having done:
      A.
      B.
      C.
7. Please list groups belonged to (formal or informal) and offices held (if any) in your high school, college or community.

Please indicate the extent to which you agree with each of the following items. Respond to the statements below with your present feelings.

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

___8. The college/university should use its influence to improve social conditions in the state.

__9. It should not be very hard to get a B (3.0) average at this school

__10. I get easily discouraged when I try to do something and it doesn't work.

__11. I am sometimes looked up to by others.

__12. If I run into problems concerning school I have someone who will listen to me and help me.

__13. There is no use in doing things for people; you only find that you get it in the neck in the long run.

__14. In groups where I am comfortable, I am often looked to as leader.

__15. I expect to have a harder time than most students at this school.

__16. Once I start something, I finish it.

__17. When I believe strongly in something, I act on it.

__18. I am as skilled academically as the average applicant to this school.

__19. I expect I will encounter racism at this school.

__20. People can pretty easily change me even though I thought my mind was already made up on the subject.

__21. My friends and relatives don't feel I should go to college.

__22. My family has always wanted me to go to college.

__23. If course tutoring is made available on campus at no cost, I would attend regularly.

__24. I want a chance to prove myself academically.

__25. My high school grades don't really reflect what I can do.

Noncognitive Questionnaire Scoring

3. Self Concept
Option 1=1; 2=2; 3-3; 4=4; no response = 2
4. Self-Concept and Self-appraisal
Option 1= 4; 2-9 = 2; no response = 2

5. Long-range goals
6. Self-Concept
7. Leadership/community service

(-) indicates that the item is scored in the negative direction (i.e., 1=5; 2=4; 3=3; 4=2; 5=1).
8. Racism (-)
9. Realistic self-appraisal (-)
10. Long range goals (+)
11. Leadership (-)
12. Availability of strong support (-)
13. Community service (+)
14. Leadership (-)
15. Racism (+)
16. Long range goals (-)
17. Positive self-concept (-)
18. Realistic self-appraisal (-)
19. Racism (-)
20. Positive self-concept (+)
21. Availability of strong support (+)
22. Availability of strong support (-)
23. Racism (-)
24. Racism (-)
25. Positive self-concept (-)

APPENDIX E

TEENAGER EXPERIENCE OF RACIAL SOCIALIZATION SCALE (TERS)

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

	Never	A few Times	Lots of Times
1. American society is fair towards black people.	1	2	3
2. Black children will feel better about themselves if they go to a school with mostly white children.	1	2	3
3. Families who go to church or mosque will be close and stay together	1	2	3
4. Black slavery is important never to forget.	1	2	3
5. Relatives can help black parents raise children.	1	2	3
6. Religion is an important part of a person's life.	1	2	3
7. Racism and discrimination are the hardest things a black child has to face.	1	2	3
8. Having large families can help many black families survive life struggles.	1	2	3
9. You should be proud to be black.	1	2	3
10. All races are equal.	1	2	3
11. If you work hard then you can overcome barriers in your life.	1	2	3
12. A belief in God can help a person deal with tough life struggles.	1	2	3
13. Black children will learn more if they go to a mostly white school.	1	2	3

	Never	A few times	Lots of
14. Knowing your African heritage is important for your survival.	1	2	3
15. Racism is real, and you have to understand it or it will hurt you.	1	2	3
16. You are connected to a history that goes back to African royalty.	1	2	3
17. Too much talk about racism will keep you from reaching your goals in life.	1	2	3
18. Schools should be required to teach all children about black history.	1	2	3
19. Depending on religion and God will help you live a good life.	1	2	3
20. Families who talk openly about religion or God will help each other grow.	1	2	3
21. Teachers can help black children grow by showing signs of black culture in the classroom.	1	2	3
22. Only people who are blood-related to you should be called your "family".	1	2	3
23. Getting a good education is still the best way for you to get ahead.	1	2	3
24. "Don't forget who your people are because you may need them someday."	1	2	3
25. Spiritual battles that people fight are more important than physical battles.	1	2	3
26. You should know about your black history so that you will be a better person.	1	2	3
27. "Train up a child in the way he should go, and he will not turn away from it."	1	2	3

	Never	A Few Times	Lots of Times
28. You have to work twice as hard as whites in order to get ahead in this world.	1	2	3
29. Whites make it hard for people to get ahead in this world.	1	2	3
30. Be proud of who you are.	1	2	3
31. Going to a black school will help black children feel better about themselves.	1	2	3
32. You need to learn how to live in a white world and a black world. -	1	2	3
33. Never be ashamed of your color.	1	2	3
34. Whites have more opportunities than blacks	1	2	3
35. A black child or teenager will be harassed just because she is black.	1	2	3
36. More job opportunities would be open to African Americans if people were not racist.	1	2	3
37. Black children should be taught early that God can protect them from racial hatred.	1	2	3
38. Blacks don't always have the same opportunities as whites.	1	2	3
39. Black children don't have to know about African in order to survive in America.	1	2	3
40. Racism is not as bad today as it used to be before the 1960s.	1	2	3

For IRB Office Use Only

APPENDIX F

INFORMED CONSENT

RESEARCH PARTICIPANT CONSENT FORM
Achievement Motivation in African American
College Students
April Muldrow, M.A.
Norfolk State University
Psychology Department

Purpose of Research: The aim of the study is to determine why some people perform better on tests than others.

Specific Procedures to be Used: You will be handed a test packet. The packet contains a number of instruments including a test of verbal abilities, a short measure that asks about cultural experiences that you had while growing up, and a measure that asks general questions about your background. A final measure asks questions about your academic perceptions and experiences.

Duration of Participation: It should take approximately 15-20 minutes to complete the packet

Risks to the Individual: The risks encountered with this study are minimal. You may experience slight discomfort with the subject matter in some of the questions.

Benefits to the Individual or Others: There are not direct benefits of this study. You could contribute to research that aims to discern why some people perform better on tests than others.

Extra Costs to Participate: There are no costs to participate in this study.

Confidentiality: Participants will remain anonymous in that you will not be required to give your name. You will be assigned a subject number that will correspond to your data set. The code book for your subject number will be stored in a locked cabinet, with all other personal data for up to 3 years from the date of its collection. After use, the data will be shredded and the data files deleted. There is no anticipated use of the data in the future.

Voluntary Nature of Participation: You do not have to participate in this research project. If you agree to participate you can withdraw your participation at any time without penalty. During any time, if you decide not to participate, contact the researcher and notify her of your intent to withdraw participation.

Contact Information: If you have any questions about this research project, you can contact If you have any questions, please do not hesitate to contact April Muldrow at amuld002@odu.edu or Dr.

Desi Hacker dshacker@nsu.edu at 757-823-2228. Either will be happy to assist you. If you have concerns about the treatment of research participants, you can contact the Institutional Review Board (IRB) at Norfolk State University; E.L. Hamm Fine Arts Building, Suite 212. The IRB's phone number is 757-823-2823. The web address is http: www.nsu.edu/sponsoredprograms

I HAVE HAD THE OPPORTUNITY TO READ THIS CONSENT FORM, ASK QUESTIONS ABOUT THE RESEARCH PROJECT AND AM PREPARED TO PARTICIPATE IN THIS PROJECT.

_____   _____
Participant's Signature   Date

_____
Participant's Name

_____   _____
Researcher's Signature   Date

APPENDIX G

DEBRIEFING FORM

The focus of this study was to investigate the theory of Stereotype Threat to determine if this theory contributes to African American HBCU student underperformance on standardized tests. The theory suggests that African American student awareness of negative societal stereotypes about their intellectual capabilities produces anxiety. This anxiety negatively impacts their ability to perform well. I was interested in determining if stereotype threat degrades academic performance even when the student is in the positive and nurturing environment of the HBCU.

All students were asked to complete a measure that assessed their opinions about academia; a measure that assessed racial messages they received as children, and a measure that asked general background information. These measures were designed to determine the student's level of achievement motivation, racial socialization and demographics respectively. All participants were asked to take a verbal test during the experiment. Participants in one condition read that the test was quite difficult and actually assessed their true intellectual abilities. The purpose of this condition was to make them aware of the negative racial stereotypes and induce stereotype threat. Participants in the other condition read that the test was quite difficult, but that the results would only be used to help develop a culturally fair standardized test. This was a control condition not intended to induced stereotype threat or degrade performance. In this way, if any differences were found in performance between the stereotype threat condition and the control condition, it could be attributable to stereotype threat.

If you are interested in the results of this study, you may contact Dr. Desideria Hacker at dshacker@nsu.edu, 757-823-2228 or April Muldrow at amuld002@odu.edu . Thank you again for your participation.

VITA

Dr. April Michelle Muldrow received her Bachelor's degree in psychology from the University of Virginia, in Charlottesville, Virginia in 2000. In 2004 Dr. Muldrow enrolled in the Virginia Consortium Program in Clinical Psychology in Virginia Beach, Virginia. In 2006 Dr. Muldrow received her Master's degree in Community/Clinical Psychology from Norfolk State University in Norfolk, Virginia. Her third year concentration was in Psychodynamic Family Therapy at the College of William and Mary in Williamsburg, Virginia. In 2008 Dr. Muldrow completed her clinical internship at the Hampton Veteran's Affairs Medical Center in Hampton, Virginia. There, she received training in Post Traumatic Stress Disorder, Drug Abuse Treatment, Inpatient Treatment, Outpatient Therapies, Biofeedback, and Clinical Hypnosis. During her graduate training, Dr. Muldrow co-authored the following article:

Mikel, E., Boyd-White, K., Muldrow, A. (2005). Family therapy in transition:

choosing to parent for peace. *International Journal of Reality Therapy, 14,* 27-32.