Stress, Social Support, And Psychological Well-Being In College Students Attending Majority And Minority Institutions

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STRESS, SOCIAL SUPPORT, AND PSYCHOLOGICAL WELL-BEING IN COLLEGE
STUDENTS ATTENDING MAJORITY AND MINORITY INSTITUTIONS

A Thesis
presented in partial fulfillment of requirements
for the degree of Master of Arts
in Clinical Psychology
The University of Mississippi

by
Bianca Marie Crudup

December 2013
ABSTRACT

High stress levels can have profound physical and emotional effects. College students frequently experience high levels of stress. While it has been noted that college students frequently report elevated stress levels, it may be that African-American college students are at exceptionally high risk for experiencing high stress levels. This observation is said to be the result of the added burden of minority status stressors. The current study examined stress levels in African-American college students attending majority (Predominantly White Institutions or PWIs) and minority (Historically Black Colleges and Universities or HBCUs) institutions. Participants completed an online survey that consisted of measures of perceived stress, student stress, social support, minority status stress, and psychological well-being. Contrary to expectations no difference was observed in levels of academic and interpersonal stress for African Americans attending PWIs and those attending HBCUs. Consistent with the literature, African Americans attending PWIs experience higher levels of minority status stress relative to African Americans attending HBCUs. Lastly, inconsistent with a number of studies, social support did not moderate the relationship between minority status stress and psychological well-being. Implications for these findings are discussed.
DEDICATION

This thesis is dedicated to my family for their continuous love and support. In particular, I want to thank my mother, Dr. Maggie R. Crudup, for being my strength when I wanted to give up.
ACKNOWLEDGEMENTS

I express my deepest appreciation to my advisor, Dr. Alan Gross and my committee members, Drs. Todd Smitherman and Laura Johnson. I could not have completed this project without your guidance and encouragement.
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INTRODUCTION

Although moderate levels of stress can facilitate personal growth, excess amounts can have lasting physical and emotional effects (Archer & Carroll, 2003). Rawson and colleagues (2001) reported that increased stress levels contributed to depression, anxiety, and suppressed immune system activity. Similarly, Tartaro and colleagues (2005) found that ailments such as depression, anxiety, hypertension, diabetes, cardiovascular disease, and heart disease are associated with high levels of stress.

A broad array of events has been identified as potential stressors. These events include catastrophes, major life events, acculturative stress, and everyday hassles. Whether an event is experienced as a stressor is dependent on individuals’ perceptions of their ability to effectively cope with the event (Stawski et al, 2008). Individuals who believe they have limited resources for addressing challenging situations or events are believed to experience these situations as significant stressors.

Certain groups may experience high levels of stress. For example, research suggests that college students may experience higher levels of stress than nonstudents (Ross, Niebling, & Heckert, 1999; Vedhara & Nott, 1996). Ross et al. (1999) have suggested that high levels of stress among students may be a result of being continually evaluated by their professors in the form of exams and papers (Ross, Niebling, & Heckert, 1999). Moreover, studies have linked high stress levels among college students with depression, anxiety, and lowered immune
functioning (Kenney & Holahan, 2008; Bayram & Bilgel, 2007; Vedhara & Nott, 1996; Rawson et al, 2001).

Several researchers have suggested that minority students may experience considerable levels of stress. Research indicates that minority students attending majority institutions (Predominantly White Institutions or PWIs) may experience high stress levels due to their minority status and stereotype threat (being at risk of confirming, as self-characteristic, a negative stereotype about one’s group) that may be associated with this minority status (Smedley, Myers, & Harrell, 1993; Steele & Aronson, 1995). Smedley and colleagues (1993) defined minority status stress as chronic exposure to difficulties that are associated with racial and ethnic group membership (Smedley, Myers, & Harrell, 1993).

Numerous studies suggest social support as an important moderator of stress. Brougham and colleagues (2009) found that college students preferred social support as a mechanism for coping with stress when compared to other coping mechanisms such as accommodation, approach, avoidance, and self-punishment. In addition, Ruthig and colleagues (2009) found that higher levels of social support were correlated with lower levels of stress and depression, and higher academic performance.

The purpose of this study was to examine stress levels in college students across majority and minority (Historically Black Colleges and Universities or HBCUs) institutions and the role of social support as a moderator of minority status stress. Following a discussion of stress and the consequences associated with experiencing high levels of stress, a review of the relationship between social support and stress will be presented. Stress associated with minority status as a college student will also be examined.
Stress: Physical and Psychological Consequences

Stress has been defined by Hans Selye (Davis & Palladino, 2007) as a non specific response of the body to any demand or unexpected event in the environment that requires adjustment. Stressors are generally categorized as acute (short-term) or chronic (long-term) (Davis & Palladino, 2007). However, more recent studies have discovered that it is one’s perceived stress level or reaction to the stressor that determines the stressor’s impact (Stawski et al., 2008). Thus, stress is defined as one’s objective perspective of his or her stressfulness (Cohen & Williamson, 1988).

Physiologically, stress activates two body systems, the sympathetic nervous system and the hypothalamic pituitary axis (HPA). Activation of the sympathetic nervous system elevates blood pressure and heart rate, while activation of the hypothalamus ultimately releases cortisol (sometimes referred to as the stress hormone). Cortisol enhances metabolic activity and elevates blood sugar levels and other nutrients (Kalat, 2009). Moderate levels of cortisol improve attention and memory formation and enhance immune system functioning, while prolonged increases of cortisol impair memory and the immune system.

Prolonged and high levels of stress have been linked to suppressed immune system activity, hypertension, diabetes, cardiovascular disease, and heart disease (Rawson et al., 2001; Archer & Carroll, 2003; Tartaro, Lueken, & Gunn, 2005). According to the American Heart Association (2009), excluding congenital heart defects, more than one in three people have some form of heart disease. Heart disease is affecting Americans at earlier and earlier ages. Approximately 12 percent of these cases occur in individuals between the ages of 20 and 39 years. Compared to Caucasians, African Americans have a higher prevalence of heart disease (American Heart Association, 2009).
Davis and Palladino (2007) have identified four psychological sources of stress: catastrophes, major life events, acculturative stress, and everyday hassles. These four sources can have psychological and physiological consequences. Catastrophes test the individual’s ability to adapt. They include natural disasters (e.g. earthquakes, hurricanes, and tornados), as well as tragedies resulting from human error (e.g. toxic spills, nuclear accidents, transportation accidents). Major life events such as illness or death of a loved one require significant adjustments in almost all aspects of life. Acculturative stress involves adapting to new a culture. Lastly, everyday hassles are minor daily events that are distressing, frustrating, and irritating (e.g. slow-moving traffic, long supermarket lines, lost keys).

DeLongis, Folkman, and Lazarus (1988) examined the somatic and psychological effects of common everyday hassles in a sample of 75 married couples ranging in age from 26 to 54 years. Participants were administered measures of emotional support, self-esteem, daily health, and daily hassles and somatic symptoms. Results suggested an inverse relationship between daily hassles and health and mood. Reported somatic symptoms included headaches; musculoskeletal symptoms such as shoulder pain, backaches, and swollen ankles; digestive system complaints such as nausea and abdominal cramping; and respiratory system symptoms such as nasal congestion, flu, cough, and sore throat.

Miczo, Miczo, and Johnson (2006) examined the relationship between perceived stress and illness-relevant variables (symptoms, illness attitudes, illness responses) in first-year college students. Measures of perceived stress, symptoms, and illness attitudes and response were administered to 390 students. Analyses revealed a significant positive relationship between perceived stress and symptom frequency and a significant negative relationship between illness attitudes and perceived stress. The authors suggested that not only do individuals with higher
stress levels experience more illness related symptoms, but individuals also possess attitudes that students who are more stressed should not be freed from everyday obligations, potentiating more illness.

Rawson and colleagues (2001) examined the interrelationships of stress, anxiety, depression, and physical illness in a college sample. Measures of anxiety, life experiences (stress), depression, and health quality were administered to 184 undergraduate students. Females (n=145) and freshmen (n=77) dominated this sample. Analyses revealed significant, positive relationships between stress levels and illness, anxiety and illness, and depression and illness.

Vedhara and Nott (1996) examined the immunological consequences of examination stress. Sixteen undergraduates and 14 controls (research or administrative staff) were given stress and immunological functioning questionnaires to evaluate stress levels and quality of health 5 to 10 days prior to final examinations (for those in the examination group). Results revealed significantly higher stress levels in the examination group relative to the non-examination group. Moreover, individuals experiencing greater stress, independent of examination status, had lower immune function scores. Edwards et. al (2001), Hughes (2005), and Bayram and Bilgel (2008) have also reported a relationship between elevated stress levels and psychological and physical health issues.

Social Support

Cohen and Willis (1985) assert that there are four major social support resources: esteem or emotional support, informational support, social companionship, and instrumental support. Esteem support is enhanced by surrounding oneself with people who value and accept that individual. Informational support occurs when someone receives help in defining, understanding,
and coping with problematic events. Social companionship involves spending time with others in leisure and recreational activities. Instrumental support involves obtaining financial aid, material resources, and needed services to address the stressful situation (Cohen & Willis, 1985).

Numerous studies indicate that social support may mitigate the impact of stress. Phillips, Gallagher, and Carroll (2009) examined the effects of social support variables on cardiovascular reactivity to acute stress in a sample of 112 female undergraduate students. Participants were asked to perform difficult arithmetic tasks. During the tasks participants were accompanied by a friend or stranger, who either remained silent or offered scripted encouragement. Relative to control conditions, lower levels of cardiovascular reactivity were observed in the active support from friend condition. It was suggested that support is more effective when it comes from a friend who provides active support.

Chao (2011) examined the relationship between stress, problem-focused coping, social support, and well-being in a college sample. Measures of perceived stress, social support, and psychological well-being were administered to 459 undergraduate students. Analyses revealed relationships among measures of perceived stress, social support and well-being. Social support moderated the relationship between perceived stress and psychological well-being. Higher levels of social support among individuals reporting high levels of stress were associated with greater psychological well-being. The authors suggested social support helps to combat high levels of stress and promote mental health.

Kwag and colleagues (2011) investigated how perceived stress, social support, and home-based physical activity affected older adults’ (aged 66 to 106) fatigue, loneliness, and depression. Measures of perceived stress, social support, physical activity, fatigue, loneliness, and depressive symptoms were administered to 163 adults. Analyses revealed correlations between perceived
stress and physical activity, fatigue, loneliness, and depressive symptoms. Negative correlations were observed between social support and physical activity, fatigue, loneliness, and depressive symptoms. Findings indicate that when older adults perceived higher levels of stress, they felt more fatigued, lonelier, and more depressed. However, when older adults perceived more social support, they felt less fatigued, less lonely, and less depressed. The authors suggested that a reduction in stress and an increase in social support in older adults may lead to better mental health in general.

Heard and colleagues (2011) investigated the mediating effects of social support among perceived stress, depression, and hypertension in African Americans. Measures of hypertension, depression, stress, and social support were administered to 997 adults between the ages of 22 and 95. Results indicated significant negative relationships among stress, depression, and blood pressure, and social support mediated the relationship between stress, depression, and hypertension. The authors suggested that improving social support may help to negate the effects of depression on blood pressure.

Lin (2009) examined the relationship between perceived stress and two types of social support, actual and perceived, among 86 international Chinese college students. Measures of stress and perceived support (one’s sense of support availability) and actual support (support that an individual actually received in the past) were administered. Results revealed correlations between stress and actual social support and between stress and social network (network of social interactions and personal relationships). This suggests that the more actual support students received and the stronger the social network (i.e. size of network, frequency of interaction, stability of network, etc.), the lower the stress levels reported. Alvan, Belgrave, and
Zea (1996), Shijin, Xiaoxue, and Shanshan (2009), and Hamdan-Mansour and Dawani (2008) have also reported a negative relationship between perceived stress and social support.

The research indicates that prolonged exposure to stress has been linked to psychological and physiological ailments such as depression, hypertension, heart disease, and anxiety (Tartaro et al, 2005). Social support has been shown to buffer the potential adverse effects of stress.

**Minority Status Stress**

While the data indicate that college students report higher levels of stress than non-students, the college environment may be exceptionally stressful for minority students. Unlike Caucasians, minority students are confronted with minority status stress. Minority status stress is a unique source of stress that stems from psychosocial difficulties related to racial and ethnic background (Greer, 2008). These stressors may include racial discrimination, strained relationships with faculty of different racial and ethnic groups, being the first in one’s family of origin to attend college, and racial and ethnic underrepresentation in academic courses and programs. Prillerman and colleagues (1989) argue that minority status stress also encompasses intragroup conflicts, such as pressure to show loyalty to one’s racial and ethnic group members. Smedley and colleagues (1993) view minority status stress as involving five sub-categories: environmental stressors associated with campus climate (e.g., few faculty and peers in one’s racial group); interracial stressors such as managing relationships within and outside of racial group; intragroup stressors such as racial and ethnic conformity; racism and discrimination stressors (overt and subtle); and achievement-related stressors (e.g., uncertain about academic achievement). Studies have consistently shown that African American students experience
racism and discrimination in their interactions with Caucasian peers, faculty, and staff (Feagin, Vera, & Imani, 1996).

There is limited empirical research on differences of stressors among Caucasians and minorities. Of the studies conducted, data indicate that these two groups differ in their appraisals and levels of stress. Jung and Khalsa (1988) examined racial differences in daily hassles. They administered a measure of daily hassles to 160 college students (96 African American and 64 Caucasian). Analyses revealed, relative to Caucasian students, African American students reported greater severity and higher frequency of stressors. African American students endorsed items frequently relating to economic hassles (e.g. not having enough money for basic needs). Caucasian students, on the other hand, endorsed more items relating to work (e.g. getting along with co-workers).

Prelow and Guarnaccia (1997) examined ethnic and racial differences in life stress among 337 (103 African American, 129 Hispanic, and 105 Caucasian) high school students. Students were administered a measure of stressful life events. A one-way ANOVA indicated that life stress significantly differed by ethnic or racial group. Caucasian students reported more stressful events than both African American and Hispanic students. MANCOVA analyses revealed significant differences in the types of stressors identified by ethnic or racial groups. African Americans reported less familial stress than Caucasians. Hispanic students did not differ from either group. In the area of interpersonal stressors, Caucasians reported more stress than African Americans and Hispanics.

Data from 1,587 college students (594 African American, 907 Caucasian, and 86 of other racial groups) were analyzed to investigate racial differences in stress (Broman, 2005). Participants were administered a measure of college student stress. Contrary to the findings of
Jung and Khalsa (1988) and Prelow and Guarnaccia (1997), multiple regression analyses indicated that stress levels did not significantly differ by ethnicity.

Inconsistencies in the data may be better explained by environmental factors such as racial composition of an institution. Studies indicate that the racial demographics of a college or university may impact levels and sources of stress. Data from 160 minority students (54 Asian Americans, 53 African Americans, and 53 Latino Americans) were analyzed to examine whether perception of university environment mediated the association between minority status stress and college persistence attitudes after controlling for perceived general stress (Wei et al., 2011). Researchers administered measures of perceived stress, minority related stress, perception of university environment, and persistence. A path analysis indicated a negative relationship between minority stress and perception of university environment. If students perceived the school environment as accepting of their cultural differences, they viewed college more positively and reported lower levels of minority related stress. Furthermore, a multivariate analysis of variance revealed that minority related stress was significantly higher for African American students relative to other minorities (e.g. Latino Americans, Asian Americans).

Nottingham and colleagues (1992) examined psychological dysfunction and psychosocial stressors in a sample of African American students attending a PWI and a HBCU. Measures of stress, depression, hopelessness, self-esteem, self-identity, alienation, and campus environment satisfaction were administered. Analyses revealed significant differences in stress, alienation (specifically social estrangement), self-identity, and campus environment satisfaction. Relative to African Americans attending the PWI, HBCU students reported more positive stress (e.g. academic stress), less alienation, higher self-identity, and less satisfaction regarding campus living conditions. The authors suggested that African American students attending a PWI are in...
need of additional services that aid African American students in reaching their full potential (e.g. peer counseling, educational and multicultural programs, and policies against discriminatory actions).

Negga, Applewhite, and Livingston (2007) investigated the impact of college environment on relationships among stress, self-esteem, and social support in a sample of undergraduate students. The HBCU sample consisted of 344 individuals (94% African American, 1% Caucasian, & 5% other), and the PWI sample consisted of 165 students (17% African American, 79% Caucasian, & 4% other). Measures of student stress, self-esteem, and social support were administered. Analyses revealed a significant negative relationship between social support and levels of stress in the HBCU sample and among Caucasians in the PWI sample. Relative to Caucasian students, African Americans reported higher levels of total stress. African Americans scored significantly higher in the areas of academic and interpersonal stress in comparison to their Caucasian counterparts. Contrary to other literature, findings in the PWI sample did not reveal a significant negative relationship between social support and levels of stress in the African American sample. This finding may be due to sample characteristics, as an overwhelming majority of the PWI sample was Caucasian (79%). This finding may also reflect lack of support for African American students attending a majority institution.

Data from 203 African American undergraduate students (101 from a PWI and 102 from a HBCU) were analyzed to investigate the relationship of stress and coping and academic performance (Greer & Chwalisz, 2007). Researchers administered measures of perceived stress, coping, and minority status stress. Analyses revealed, relative to HBCU students, African American students attending a PWI had lower GPAs and higher levels of minority stress. These
results suggest that African Americans who attend a PWI experienced difficulties on campus perceived to be directly related to their race/ethnicity resulting in poorer GPAs.

Watkins and her colleagues (2007) attempted to identify stressful life events in African Americans attending a PWI and a HBCU. Small focus groups were conducted with 46 African American male students aged 18 to 26 years. Using qualitative analyses 19 stressor themes were identified. African Americans who attended the PWI reported themes dominated by conversations concerning daily hassles and minority status stress, specifically acceptance, cultural conflict, racism/discrimination, and (lack of) social support. Themes represented in discussions of African Americans attending the HBCU were dominated by image, lack of resources for advancement, and daily hassles, suggesting that the types of stressors experienced by African American college students may be influenced by the demographics of the college/university environment.

The data reviewed suggest that the college environment may be stressful for many students. When compared to non-student peers, college students display elevated stress levels. While minority and majority college students may report similar sources of stress, minority students are also subject to minority status stress. Minority related stress may refer to environmental stressors associated with campus climate, interracial stressors, intragroup stressors, racism and discrimination stressors, and achievement-related stressors. Minority status stress may be particularly salient for African Americans attending PWIs. Fortunately, considerable data indicate that different types of social support may be protective against stress.

The purpose of the current study was to examine the relationships among stress, social support, and psychological well-being in college students attending majority and minority institutions. Students at PWI and HBCU institutions completed surveys assessing sources and
levels of stress, social support, and psychological well-being. It was expected that African Americans attending HBCUs would report higher levels of interpersonal and academic stressors relative to African Americans attending PWIs. It was also expected that African Americans attending PWIs would report higher levels of minority related stressors when compared to African Americans attending HBCUs. Additionally, it was predicted that minority status stress will be associated with psychological well-being, and this relationship would be moderated by social support.
METHODOLOGY

Participants

The sample consisted of 317 students attending two public universities (Predominantly White Institution and Historically Black College or University) located in the southeastern region of the United States. Of the 132 students attending the Historically Black College or University (HBCU), 82.6% were African American, 12.1% were Caucasian, 3% were Multiracial, 1.5% were Native American, and 0.8% self-identified as Other. The 185 individuals at the Predominantly White Institution (PWI) primarily consisted of Caucasian students (71.9%), with the next largest group being African Americans (22.2%), followed by Asian American/Asian (3.8%), Multiracial (1.1%), and Other (1.1%). Participants’ age ranged from 18 to 64, with the majority (55.8%) being 18 to 20. 44.5% of the sample were members of a least one university affiliated organization. Because the proceeding analyses compared Caucasian students and African American students, individuals who did not identify with either ethnic group (n=18) were not included, resulting in 299 participants.

Measures

A demographic survey was used to determine participants’ age, sex, college/university, state of permanent residence, classification (freshman, sophomore, junior, senior), racial composition of high school, race/ethnicity, and affiliation with campus organizations (see Appendix A).

The Perceived Stress Scale (Cohen & Williamson, 1988) is a 10 item measure that assesses an individual’s evaluation of the stressfulness of situations over the past month (see
Appendix B). Participants rate their perception of stress on a 5-point Likert scale ranging from 0 (Never) to 4 (Very Often). Total scores range from 0 to 40; a score of 13 is considered average. Sample items include, “In the last month, how often have you been upset because of something that happened unexpectedly?” and “In the last month, how often have you felt nervous and “stressed”?” The Perceived Stress Scale is the most widely used instrument for measuring perception of stress and has good reliability (Baldwin, Chambliss, & Towler, 2003). The predictive validity for depression and physical symptomatology range from .52 to .76 (Cohen, Kamarck, & Mermelstein, 1983).

The Student Stress Survey (Ross, Niebling, & Heckert, 1999) consists of 40 items assessing four areas of stress: academic stress, interpersonal stress, intrapersonal stress, and environmental stress (see Appendix C). Participants rate how much of a problem each area has been for them during the current school year. Responses range from “no problem at all” to “very much a problem” on a 4-point scale. Total scores range from 0 to 120. Higher scores indicate greater levels of stress (Ross, Niebling, & Heckert, 1999). The five stress categories have adequate internal reliability as measured by Cronbach’s alpha ranging from .57 to .70 (Broughman et al., 2009).

The Inventory of Socially Supportive Behaviors (ISSB; Barerra, Sandler, & Ramsay, 1981) is 40 item scale used to examine emotional support and tangible support (see Appendix D). Participants are asked to rate the frequency of each event. In the current study it was used to measure the extent of social support systems the participant has experienced in the last four weeks. Responses range from “not at all” to “about every day” on a 5-point scale. Total scores range from 0 to 200 with a mean score of 88. Higher scores equal greater social support. This scale has good internal consistency (Cronbach alpha =.93; Barerra, Sandler, & Ramsay, 1981).
The Minority Status Stress Scale (MSS; Prillerman et al., 1989; Smedley et al., 1993) is a 37-item questionnaire designed to measure five areas of stress that students of color experience and attribute to their racial/ethnic minority status (see Appendix E). Subscales include environmental stressors associated with campus climate (e.g., few classes that reflect one’s racial and ethnic background), interpersonal stressors (e.g., issues associated with managing relationships inside and outside of one’s racial and ethnic group), intragroup stressors (e.g., pressure to show commitment to one’s racial and ethnic group), race-related stressors (e.g., racism, discrimination), and achievement-related stressors (e.g., one’s uncertainty about one’s ability to succeed in college). Items are rated using a six-point Likert type: 0 (does not apply) to 5 (extremely stressful for me). The MSS is scored by summing across items for each subscale or the scale as a whole. Total scores range from 0 to 185. High MSS scores reflect considerable distress related to minority status experiences on campus. Smedley et al. (1993) and Prillerman et al. (1989) reported Cronbach’s alpha reliabilities for MSS subscales ranging from .76 to .93. However, high intercorrelations for subscales were reported in other studies (Greer & Chwalisz, 2007; Greer, 2008). Therefore, the total MSS scale score was computed to address redundancy among the subscales; the Cronbach’s alpha reliability for the total MSS score was .93. The current study used the total MSS scale score.

The General Health Questionnaire-12 (GHQ-12) is a measure that assesses current mental well-being by evaluating one’s inability to carry out normal functions and the appearance of new and distressing experiences (see Appendix F). The scale uses a Likert type scale ranging from 0 to 3. Participants indicate if symptoms have been present in recent weeks much more than usual (3), rather more than usual (2), no more than usual (1), or not at all (0). Total scores range from 0 to 36. Scores of 1-10 indicates “low psychological distress”; 11-12 is “typical”; 13-15 is
“more than typical”; 16-20 show “evidence of psychological distress”; and scores over 20 indicate “severe” distress (Goldberg et al., 1997). The Cronbach’s alpha reliability for the GHQ-12 was .87 (Baksheev et al., 2011).

Procedure

Participants were recruited through classroom announcements and Psychology Study Participant Manager (PSPM). The Qualtrics link for the survey was included in the announcements. Participants first viewed the letter of informed consent. After consenting to participate in the study, participants provided demographic information and completed the following measures: the Perceived Stress Scale, the Student Stress Survey, the Inventory of Socially Supportive Behaviors, the General Health Questionnaire-12, and the Minority Status Stress Scale. Caucasian students completed an adapted version of the Minority Status Stress Scale (see Appendix G).
RESULTS

Data Cleaning and Examination

Descriptive statistics were computed for all variables. Examination of skew and kurtosis revealed that 2 variables were not normally distributed, Student Stress Survey (SSS) and the Minority Status Stress Scale (MSS). After visual inspection of these variables, they were transformed using logarithm (SSS) and square root (MSS) transformation procedures as suggested by Pallant (2010). Analyses were performed using both transformed and non-transformed data. Because no differences in outcomes were observed with transformed and non-transformed data, non-transformed data will be discussed.

Tests for multivariate outliers were conducted using Mahalanobis distance; no outliers were identified. Little’s chi-square statistic used for testing whether values were missing completely at random (MCAR) was computed. It was determined that missing responses were MCAR. Therefore, the expectation maximization algorithm was used to estimate values for participants with missing data (N=17). The final dataset consisted of 299 participants whose demographic information can be seen in Tables 1-3 (Appendix H). Participants’ mean scores on primary measures are presented in Table 4-6 (Appendix H), and correlations among these variables are presented in Table 7 (Appendix H).

Influence of Ethnicity and University Demographics on Student Stress

To explore whether African Americans attending HBCUs report higher levels of interpersonal and academic stressors compared to African Americans attending PWIs, two
analyses of variance were conducted with the academic and interpersonal subscales of the Student Stress Survey as dependent variables. No differences were observed [interpersonal stressors, F(1, 148) = .25, p = .62, \( \eta^2 = .04 \); academic stressors, F(1, 148) = .19, p = .66, \( \eta^2 = .00 \)].

**Influence of University Demographics and Ethnicity on Minority Status Stress**

In order to determine whether ethnicity and university affiliation affect levels of minority related stressors an analysis of variance [2 (African American vs Caucasian) x 2 (HBCU vs PWI) ANOVA] was conducted using MSS as the dependent variable. Results revealed a main effect for ethnicity, F (1, 295) = 19.15, p < .001, \( \eta^2 = .06 \); African American students (M=43.31, SD=30.01) experienced more MSS than Caucasian students (M= 28.03, SD= 17.69) overall. There was no effect for university affiliation, F (1, 295) = 1.83, p = .18, \( \eta^2 = .01 \). As expected, the interaction between ethnicity and university affiliation was significant, F (1, 295) = 4.90, p = .03, \( \eta^2 = .02 \) (Figure 1, Appendix H). Follow up one way ANOVAs revealed that African American students attending PWIs (M= 53.46, SD= 30.15) experience greater levels of minority status stress than African Americans attending HBCUs (M= 39.50, SD= 29.19), [F(1, 148) = 6.69, p = .01, \( \eta^2 = .04 \)] but the difference in Minority status Stress for Caucasian students attending PWIs (M= 27.66, SD= 17.96) and HBCUs (M= 31.03, SD= 15.47) was not statistically significant, F(1, 147) = .515, p = .47, \( \eta^2 = .003 \).

**Effects of Minority Status Stress and Social Support on Psychological Well-Being**

A hierarchical linear regression was performed in order to examine interactions between minority status stress, demographic variables (age, sex, and institution), and social support as a moderator in predicting psychological well-being. Because the previous analysis indicated that
Caucasian students at the PWI and HBCU did not differ in terms of minority status stress, Caucasian students were not included in this analysis. Age, sex, institution, social support, and minority status stress variables were centered by subtracting the sample mean from each individual score. Sex was dummy coded as 1 = Male and 0 = Female. Additionally, institution was dummy coded as 1 = HBCU and 0 = PWI. The interaction terms were computed by multiplying the centered and dichotomized values.

Lower-order, two-way and three-way interactions were tested among age, sex, university, social support, and minority status stress in the prediction of psychological well-being. Table 8 contains $B$, Standard error $B$, $\beta$, $t$, and $p$ values for each variable in each step of the analysis.

Demographic variables, social support, and minority status stress were entered in Step 1. This model was significant in the prediction of psychological well-being [$R = .433$, $R^2 = .188$, Adjusted $R^2 = .159$, $\Delta R^2 = .188$, $F(5, 141) = 6.516$, $p = .000$]. Examination of coefficients of individual variables revealed that social support and minority status stress contributed significant predictive value to the model ($p = .012$ and $p = .000$), while the other variables did not. The addition of two-way interactions entered in step two did not add significant explanatory power to the model [$R = .447$, $R^2 = .199$, Adjusted $R^2 = .147$, $\Delta R^2 = .012$, $F(4, 137) = .501$, $p = .735$]. The addition of three-way interactions in step three did not account for significant additional variance [$R = .469$, $R^2 = .220$, Adjusted $R^2 = .150$, $\Delta R^2 = .021$, $F(3, 134) = 1.176$, $p = .321$]. Examination of coefficients of individual interactions entered into the model revealed that the interaction among social support, university, and minority status stress approached significance ($p = .074$).
DISCUSSION

Several investigators have suggested that relative to African Americans attending PWIs, African Americans attending HBCUs may experience higher levels of academic and interpersonal stressors (Negga, Applewhite, & Livingston, 2007; Nottingham et al., 1992). Contrary to expectations, in the current study regardless of institution no differences in academic or interpersonal stressors were reported by African American students. Mean scores for interpersonal and academic stressors were low for both groups. It may be that student stress in general is not as stressful as minority status stress for African Americans.

Consistent with predictions, results suggest that African American students attending PWIs experience higher levels of minority status stress when compared to African Americans attending HBCUs. Similar findings have been noted in several studies (Smedley et al., 1993; Negga, Applewhite, & Livingston, 2007; Watkins et al., 2007; Greer & Chwalisz, 2007; Greer, 2008). Although the percentage of minorities attending college is growing, it remains relatively small. Additionally, there are increasing numbers of minority students attending PWIs. However, the opportunity for minority students to interact with their cultural group remains limited. While institutions may attempt to foster campus multiculturalism, it is not clear how effective these efforts have been (Loo & Rolison, 1986). This may particularly be the case regarding majority students and faculty understanding of many of the stressors experienced by minority students. Moreover, the relative dearth of African American faculty at PWIs may also contribute to a sense of social isolation among minority students (Loo & Rolison, 1986). It may be that these issues
play a role in minority related stress for African American students attending PWIs when compared to African American students attending HBCUs.

Caucasian students attending the HBCU did not experience increased levels of minority related stress compared to Caucasian students attending the PWI. It may be that minority related stressors are not relevant for the majority population even in a context where they are considered the minority. Historically and currently, minorities as a whole have been faced with issues such as stereotype threat and discrimination solely based on race. Caucasians, on the other hand, have not regularly been confronted by these issues. It is also possible that Caucasian students do experience stress associated with being the minority at HBCUs, but the larger majority cultural environment serves as a buffer for potential negative effects possibly resulting from working in a minority environment. Allen (1992) indicated that HBCU campuses are uniquely nourishing and may be related to enhancement of students’ experiences and outcomes. Lastly, it is possible that the sample size of Caucasian students at the HBCU was too small resulting in limited power.

Contrary to expectations, social support did not moderate the relationship between minority status stress and psychological well-being. It may be that when compared to African American attending the PWI, African Americans attending the HBCU experienced significantly lower levels of minority related stress. As noted above, the academic and cultural context associated with HBCUs (Allen, 1992) may further work to limit minority status stress, reducing the need for other forms of anxiety buffers. However, minority status stress was significantly higher for students in the predominantly white academic environment. For these students, it may be that in the larder PWI academic context where multiple cultural challenges including stereotype threat are encountered, social support may not be powerful enough to mitigate the
effects of minority status stress. Identifying other potential moderators or MSS in academic environments should be considered.

There are several limitations associated with the current study. The sample was recruited from public universities located in the southeastern United States. Historically, institutional segregation was prominent in southern and southeastern regions where HBCUs are found. This region of the United States has a significant history of troubled race relations. In addition to a history of institutional segregation, it’s only as recent as the 1990s that there was a court ordered settlement regarding a history of discrimination concerning state-funding of HBCUs versus PWIs (Ayers versus Fordice case; Samuels, 2010). Additionally, there may be a selection bias. African Americans who attend a predominantly white college or university may be fundamentally different from those who choose to go to a historically black college or university. In order to ensure generalization of findings, future research should examine the effects of minority status stress in other minority academic populations and universities and colleges in other areas of the country. While measures used demonstrated adequate validity and reliability, this study is limited in its sole use of self-report measures. Future studies would benefit from including additional assessment methods.

Despite the above limitations, the current study supports the notion that African American college students attending PWIs are at risk of experiencing minority status stress. Future research should examine methods to identify and enhance social support for African American students attending PWIs.


Heard, E., Whitfield, K. E., Edwards, C. L., Bruce, M. A., & Beech, B. M. (2011). Mediating effects of social support on the relationship among perceived stress, depression, and


LIST OF APPENDICES
APPENDIX A: DEMOGRAPHIC QUESTIONNAIRE
The following questions will ask you to provide demographic characteristics. Please answer all questions before moving on to the next page.

1. With what race or ethnicity do you identify?
   a. African American/Black
   b. Asian American/Asian
   c. Caucasian/White
   d. Native American
   e. Multiracial
   f. Other

2. What is your sex?
   a. Male
   b. Female

3. What is your age?

4. What university/college do you attend?

5. What is the city and state of your permanent residence?

6. What is your classification?
   a. Freshman
   b. Sophomore
   c. Junior
   d. Senior
   e. Graduate student

7. What was the racial composition of your high school?
   a. Mostly African American/Black
b. Mostly Caucasian/White

c. Half African American/Black and half Caucasian/White

d. Other

i. Explain:

8. What organizations are you affiliated with on campus?
APPENDIX B: PERCEIVED STRESS SCALE
The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling how often you felt or thought a certain way.

0 = Never    1 = Almost Never    2 = Sometimes    3 = Fairly Often    4 = Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly? ........................................ 0 1 2 3 4

2. In the last month, how often have you felt that you were unable to control the important things in your life? .................................................. 0 1 2 3 4

3. In the last month, how often have you felt nervous and “stressed”? ............. 0 1 2 3 4

4. In the last month, how often have you felt confident about your ability to handle your personal problems? ........................................... 0 1 2 3 4

5. In the last month, how often have you felt that things were going your way? ................................................................. 0 1 2 3 4

6. In the last month, how often have you found that you could not cope with all the things that you had to do? ........................................... 0 1 2 3 4

7. In the last month, how often have you been able to control irritations in your life? ................................................................. 0 1 2 3 4

8. In the last month, how often have you felt that you were on top of things? 0 1 2 3 4

9. In the last month, how often have you been angered because of things that were outside of your control? .................................. 0 1 2 3 4

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? .................. 0 1 2 3 4
Please indicate how much of a problem each area has been for you during the current school year.

<table>
<thead>
<tr>
<th>No problem at all</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>Very much a problem</th>
<th>3</th>
</tr>
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<tbody>
<tr>
<td>1. Change in social activities</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2. Roommate conflict</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3. Work with people you don't know</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4. Fight with boyfriend/girlfriend</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>5. New boyfriend/girlfriend</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>6. Trouble with parents</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>7. Change in sleeping habits</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>8. Change in eating habits</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>9. New responsibilities</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>10. Financial difficulties</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>11. Held a job</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>12. Spoke in public</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>13. Change in use of alcohol or drugs</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>14. Outstanding personal achievement</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>15. Started college</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>16. Decline in personal health</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>17. Minor law violation</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>18. Change in religious beliefs</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
19. Death of a family member
20. Death of a friend
21. Severe injury
22. Engagement/Marriage
23. Increased class workload
24. Lower grade than anticipated
25. Change of Major
26. Search for graduate school/job
27. Missed too many classes
28. Anticipation of graduation
29. Serious argument with instructor
30. Transferred schools
31. Vacations/breaks
32. Waited in long line
33. Computer problems
34. Placed in unfamiliar situation
35. Messy living conditions
36. Put on hold for extended period of time
37. Change in living environment
38. Car trouble
39. Quit job
40. Divorce between parents
APPENDIX D: INVENTORY OF SOCIALLY SUPPORTIVE BEHAVIORS
Rate the frequency of events using the following response categories.

1. Not at all
2. Once or twice
3. About once a week
4. Several times a week
5. About every day

1. Looked after a family member when you were away. 1 2 3 4 5
2. Was right there with you (physically) in a stressful situation. 1 2 3 4 5
3. Provided you with a place where you could get away for awhile. 1 2 3 4 5
4. Watched after your possessions when you were away (pets, plants, home, apartment, etc.). 1 2 3 4 5
5. Told you what she/he did in a situation that was similar to yours. 1 2 3 4 5
6. Did some activity together to help you get your mind off of things. 1 2 3 4 5
7. Talked with you about some interests of yours. 1 2 3 4 5
8. Let you know that you did something well. 1 2 3 4 5
9. Went with you to someone who could take action. 1 2 3 4 5
10. Told you that you are OK just the way you are. 1 2 3 4 5
11. Told you that she/he would keep the things that you talk about private—just between the two of you. 1 2 3 4 5
12. Assisted you in setting a goal for yourself. 1 2 3 4 5
13. Made it clear what was expected of you. 1 2 3 4 5
14. Expressed esteem or respect for a competency or personal quality of yours. 1 2 3 4 5
15. Gave you some information on how to do something. 1 2 3 4 5
16. Suggested some action that you should take. 1 2 3 4 5
17. Gave you over $25. 
18. Comforted you by showing you some physical affection. 
19. Gave you some information to help you understand 
a situation you were in. 
20. Provided you with some transportation. 
21. Checked back with you to see if you followed 
the advice you were given. 
22. Gave you under $25. 
23. Helped you understand why you didn't do something well. 
24. Listened to you talk about your private feelings. 
25. Loaned or gave you something (a physical object other than money) 
that you needed. 
26. Agreed that what you wanted to do was right. 
27. Said things that made your situation clearer and easier to 
understand. 
28. Told you how he/she felt in a situation that was similar to yours. 
29. Let you know that he/she will always be around if you need 
assistance. 
30. Expressed interest and concern in your well-being. 
31. Told you that she/he feels very close to you. 
32. Told you who you should see for assistance. 
33. Told you what to expect in a situation that was about to happen. 
34. Loaned you over $25
35. Taught you how to do something.

36. Gave you feedback on how you were doing without saying it was good or bad.

37. Joked and kidded to try to cheer you up.

38. Provided you with a place to stay.

39. Pitched in to help you do something that needed to be done.

40. Loaned you under $25.
APPENDIX E: MINORITY STATUS STRESS SCALE
Instructions. Below is a list of statements that describe situations that may be stressful for some students. We would like to know how stressful these situations have been for you since you have been in college. By “stressful” we mean that it bothers you or causes you problems in any way. Please circle the response that best indicates how stressful each situation has been for you since you have been at your university. Circle “N/A if you DO NOT EXPERIENCE THE SITUATION AT ALL. Circle “1” if you DO experience or recognize the situation but YOU DO NOT EXPERIENCE IT AS STRESSFUL AT ALL.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N/A</td>
<td>Not at all stressful</td>
<td>A little stressful for me</td>
<td>Somewhat stressful for me</td>
<td>Very stressful for me</td>
<td>Extremely stressful for me</td>
</tr>
</tbody>
</table>

1. My family does not understand the pressures of college (e.g. amount of time or quiet needed to study).
   0 1 2 3 4 5

2. My family discourages me from spending my time going to college.
   0 1 2 3 4 5

3. Being the first in my family to attend a major university.
   0 1 2 3 4 5

4. Doubts about my ability to succeed in college.
   0 1 2 3 4 5

5. My academic background preparation for college being inadequate.
   0 1 2 3 4 5

6. White people expecting me to be a certain way because of my race (i.e. stereotyping).
   0 1 2 3 4 5

7. Language-related problems (i.e., having an “accent” or “speaking non-standard English”).
   0 1 2 3 4 5

8. Maintaining my ethnic identity while attending the university.
   0 1 2 3 4 5

9. The lack of unity/supportiveness among members of my race at the university.
   0 1 2 3 4 5
10. Being treated rudely or unfairly because of my race. 0 1 2 3 4 5
11. Being discriminated against. 0 1 2 3 4 5
12. Others lacking respect for people of my race. 0 1 2 3 4 5
13. Negative Attitudes/treatment of faculty toward students of my race. 0 1 2 3 4 5
14. Having to “prove” my abilities to others (i.e. working twice as hard). 0 1 2 3 4 5
15. Pressures to show loyalty to my race (e.g. giving back to my ethnic group community). 0 1 2 3 4 5
16. White students and faculty expect poor academic performance from students of my race. 0 1 2 3 4 5
17. Pressures from people of my same race (e.g. how to act, what to believe). 0 1 2 3 4 5
18. People close to me thinking I’m acting “White.” 0 1 2 3 4 5
19. Feeling others do not respect my intelligence. 0 1 2 3 4 5
20. Difficulties with having White friends. 0 1 2 3 4 5
21. Negative relationships between different ethnic groups at my university. 0 1 2 3 4 5
22. Having to always be aware of what White people might do. 0 1 2 3 4 5
23. The White-oriented campus culture at my university. 0 1 2 3 4 5
24. Wealthy campus culture at my university. 0 1 2 3 4 5
25. The university is an unfriendly place. 0 1 2 3 4 5
26. Having to live around mostly White people. 0 1 2 3 4 5
27. Tense relationships between Whites and minorities at the university. 0 1 2 3 4 5
28. Few courses involve issues relevant to my ethnic group. 0 1 2 3 4 5
29. Racist policies and practices of the university. 0 1 2 3 4 5
30. My university lacks concern and support for the needs of students of my race. 0 1 2 3 4 5
31. The university does not have enough professors of my race.

32. Few students of my race are in my classes.

33. Seeing members of my race doing low status jobs and Whites in high status jobs on campus.

34. My family having very expectations for my college success.

35. Pressure that what “I” do is representative of my ethnic group’s abilities, behavior, and so on.

36. Feeling less intelligent or less capable than others.

37. Relationships between males and females of my race (e.g. lack of available dating partners).
APPENDIX F: GENERAL HEALTH QUESTIONNAIRE-12
Please read carefully:

We should like to know if you have had any medical complaints, and how your health has been in general, over the past few weeks. Please answer ALL the questions simply by circling the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those you had in the past. It is important that you try to answer ALL the questions.

Thank you very much for your cooperation.

**HAVE YOU RECENTLY:**

1. been able to concentrate on whatever you’re doing? Better than usual | Same as usual | Less than usual | Much less than usual

2. lost much sleep over worry? Not at all | No more than usual | Rather more than usual | Much more than usual

3. felt that you are playing a useful part in things? More so than usual | Same as usual | Less useful than usual | Much less useful

4. felt capable of making decisions about things? More so than usual | Same as usual | Less so than usual | Much less capable

5. felt constantly under strain? Not at all | No more than usual | Rather more than usual | Much more than usual

6. felt you couldn’t overcome your difficulties? Not at all | No more than usual | Rather more than usual | Much more than usual

7. been able to enjoy your normal day-to-day activities? More so than usual | Same as usual | Less so than usual | Much less than usual

8. been able to face up to your problems? More so than usual | Same as usual | Less able than usual | Much less able

9. been feeling unhappy and depressed? Not at all | No more than usual | Rather more than usual | Much more than usual

10. been losing confidence in yourself? Not at all | No more than usual | Rather more than usual | Much more than usual

11. been thinking of yourself as a worthless person? Not at all | No more than usual | Rather more than usual | Much more than usual

12. been feeling reasonably happy, all things More so than usual | About same as usual | Less so than usual | Much less than usual
considered?
APPENDIX G: MINORITY STATUS STRESS SCALE
(Version for Caucasian students)

**Instructions.** Below is a list of statements that describe situations that may be stressful for some students. We would like to know how stressful these situations have been for you since you have been in college. By “stressful” we mean that it bothers you or causes you problems in any way. Please circle the response that best indicates how stressful each situation has been for you since you have been at your university. Circle “N/A if you DO NOT EXPERIENCE THE SITUATION AT ALL. Circle “1” if you Do experience or recognize the situation but YOU DO NOT EXPERIENCE IT AS STRESSFUL AT ALL.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Not at all stressful</td>
<td>A little stressful for me</td>
<td>Somewhat stressful for me</td>
<td>Very stressful for me</td>
<td>Extremely stressful for me</td>
<td></td>
</tr>
</tbody>
</table>

1. My family does not understand the pressures of college (e.g. amount of time or quiet needed to study).
   - 0 1 2 3 4 5
2. My family discourages me from spending my time going to college.
   - 0 1 2 3 4 5
3. Being the first in my family to attend a major university.
   - 0 1 2 3 4 5
4. Doubts about my ability to succeed in college.
   - 0 1 2 3 4 5
5. My academic background preparation for college being inadequate.
   - 0 1 2 3 4 5
6. Black people expecting me to be a certain way because of my race (i.e. stereotyping).
   - 0 1 2 3 4 5
7. Language-related problems (i.e., having an “accent” or “speaking non-standard English”).
   - 0 1 2 3 4 5
8. Maintaining my ethnic identity while attending the university.
   - 0 1 2 3 4 5
9. The lack of unity/supportiveness among members of my race at the university. 
0 1 2 3 4 5

10. Being treated rudely or unfairly because of my race. 
0 1 2 3 4 5

11. Being discriminated against. 
0 1 2 3 4 5

12. Others lacking respect for people of my race. 
0 1 2 3 4 5

13. Negative Attitudes/treatment of faculty toward students of my race. 
0 1 2 3 4 5

14. Having to “prove” my abilities to others (i.e. working twice as hard). 
0 1 2 3 4 5

15. Pressures to show loyalty to my race (e.g. giving back to my ethnic group community). 
0 1 2 3 4 5

16. Black students and faculty expect excellent academic performance from students of my race. 
0 1 2 3 4 5

17. Pressures from people of my same race (e.g. how to act, what to believe). 
0 1 2 3 4 5

18. People close to me thinking I’m acting “Black.” 
0 1 2 3 4 5

0 1 2 3 4 5

0 1 2 3 4 5

21. Negative relationships between different ethnic groups at my university. 
0 1 2 3 4 5

22. Having to always be aware of what Black people might do. 
0 1 2 3 4 5

23. The Black-oriented campus culture at my university. 
0 1 2 3 4 5

24. Wealthy campus culture at my university. 
0 1 2 3 4 5

25. The university is an unfriendly place. 
0 1 2 3 4 5

0 1 2 3 4 5

27. Tense relationships between Whites and minorities at the university. 
0 1 2 3 4 5

28. Few courses involve issues relevant to my ethnic group. 
0 1 2 3 4 5

29. Racist policies and practices of the university. 
0 1 2 3 4 5
30. My university lacks concern and support for the needs of students of my race.  
31. The university does not have enough professors of my race.  
32. Few students of my race are in my classes.  
33. Seeing members of my race doing low status jobs and Blacks in high status jobs on campus.  
34. My family having very expectations for my college success.  
35. Pressure that what “I” do is representative of my ethnic group’s abilities, behavior, and so on.  
36. Feeling less intelligent or less capable than others.  
37. Relationships between males and females of my race (e.g. lack of available dating partners).
APPENDIX H: TABLES AND FIGURES
Table 1

Demographic Information - #1

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<tr>
<th>Overall</th>
<th>Mean</th>
<th>SD</th>
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<tr>
<td>Age</td>
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<td>9.52</td>
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<td>University Affiliated Organizations</td>
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<td>1.35</td>
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<thead>
<tr>
<th>Race/Ethnicity:</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American/Black</td>
<td>150</td>
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<tr>
<td>Asian American/Asian</td>
<td>7</td>
<td>2.2%</td>
</tr>
<tr>
<td>Caucasian/White</td>
<td>149</td>
<td>47%</td>
</tr>
<tr>
<td>Native American</td>
<td>2</td>
<td>.6%</td>
</tr>
<tr>
<td>Multiracial</td>
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<td>1.9%</td>
</tr>
<tr>
<td>Other</td>
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<td>.9%</td>
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</thead>
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<tr>
<td>Jackson State University</td>
<td>132</td>
<td>41.6%</td>
</tr>
<tr>
<td>University of Mississippi</td>
<td>185</td>
<td>58.4%</td>
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</tr>
<tr>
<td>Sophomore</td>
<td>41</td>
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</tr>
<tr>
<td>Junior</td>
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<td>18.6%</td>
</tr>
<tr>
<td>Senior</td>
<td>61</td>
<td>19.2%</td>
</tr>
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<td>Graduate Student</td>
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<td>8.8%</td>
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</tr>
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<td>Female</td>
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<th>Racial Composition of High School:</th>
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<th>Percentage</th>
</tr>
</thead>
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<tr>
<td>Mostly African American/Black</td>
<td>86</td>
<td>27.1%</td>
</tr>
<tr>
<td>Mostly Caucasian/White</td>
<td>140</td>
<td>44.2%</td>
</tr>
<tr>
<td>Half African American/Black and half Caucasian/White</td>
<td>79</td>
<td>24.9%</td>
</tr>
<tr>
<td>Other</td>
<td>12</td>
<td>3.8%</td>
</tr>
</tbody>
</table>
### Table 2

Demographic Information - #2

Jackson State University

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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
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<td>11.54</td>
</tr>
<tr>
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<td>1.40</td>
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<table>
<thead>
<tr>
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<th>Frequency</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td><strong>Race/Ethnicity:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American/Black</td>
<td>109</td>
<td>82.6%</td>
</tr>
<tr>
<td>Asian American/Asian</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Caucasian/White</td>
<td>16</td>
<td>12.1%</td>
</tr>
<tr>
<td>Native American</td>
<td>2</td>
<td>1.5%</td>
</tr>
<tr>
<td>Multiracial</td>
<td>4</td>
<td>3%</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>.8%</td>
</tr>
</tbody>
</table>

| **Educational Status:**       |            |            |
| Freshman                       | 8          | 6.1%       |
| Sophomore                      | 15         | 11.4%      |
| Junior                         | 44         | 33.3%      |
| Senior                         | 46         | 34.8%      |
| Graduate Student               | 19         | 14.4%      |

| **Sex:**                       |            |            |
| Male                           | 23         | 17.4%      |
| Female                         | 109        | 82.6%      |

| **Racial Composition of High School:** |            |            |
| Mostly African American/Black    | 66         | 50%        |
| Mostly Caucasian/White           | 29         | 22%        |
| Half African American/Black and half Caucasian/White | 34 | 25.8% |
| Other                           | 3          | 2.3%       |
Table 3
Demographic Information - #3

University of Mississippi

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<thead>
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<td>1.28</td>
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<th>Race/Ethnicity:</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American/Black</td>
<td>41</td>
<td>22.2%</td>
</tr>
<tr>
<td>Asian American/Asian</td>
<td>7</td>
<td>3.8%</td>
</tr>
<tr>
<td>Caucasian/White</td>
<td>133</td>
<td>71.9%</td>
</tr>
<tr>
<td>Native American</td>
<td>0</td>
<td>0%</td>
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<tr>
<td>Multiracial</td>
<td>2</td>
<td>1.1%</td>
</tr>
<tr>
<td>Other</td>
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<td>1.1%</td>
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<th>Percentage</th>
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<tr>
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<tr>
<td>Junior</td>
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<td>8.1%</td>
</tr>
<tr>
<td>Senior</td>
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<td>8.1%</td>
</tr>
<tr>
<td>Graduate Student</td>
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<td>4.9%</td>
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<table>
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<th>Frequency</th>
<th>Percentage</th>
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<td>Female</td>
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<th>Percentage</th>
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<tbody>
<tr>
<td>Mostly African American/Black</td>
<td>20</td>
<td>10.8%</td>
</tr>
<tr>
<td>Mostly Caucasian/White</td>
<td>111</td>
<td>60%</td>
</tr>
<tr>
<td>Half African American/Black and half Caucasian/White</td>
<td>45</td>
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<td>Other</td>
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<td>4.9%</td>
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Table 4

Primary Measures - #1

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<th>Measure</th>
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<th>Caucasians</th>
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<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
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<td>Perceived Stress Scale (PSS)</td>
<td>18.15</td>
<td>3.86</td>
<td>17.63</td>
<td>4.09</td>
<td>18.64</td>
<td>3.45</td>
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<tr>
<td>Student Stress Survey (SSS)</td>
<td>60.80</td>
<td>15.35</td>
<td>61.70</td>
<td>17.65</td>
<td>59.48</td>
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<td>Inventory of Socially Supportive Behaviors (ISSB)</td>
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<td>110.75</td>
<td>27.79</td>
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<td>Minority Status Stress Scale (MSS)</td>
<td>36.47</td>
<td>26.53</td>
<td>43.31</td>
<td>30.01</td>
<td>28.03</td>
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<td>General Health Questionnaire (GHQ)</td>
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<td>6.07</td>
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<td>7.07</td>
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<td>4.54</td>
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Table 5

Primary Measures - #2

Jackson State University

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<tr>
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<tr>
<td>Perceived Stress Scale (PSS)</td>
<td>17.73</td>
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<td>General Health Questionnaire (GHQ)</td>
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Table 6

Primary Measures - #3

Jackson State University-African Americans

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<tr>
<td>Perceived Stress Scale (PSS)</td>
<td>17.75</td>
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Primary Measures - #4
Jackson State University- Caucasians

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<th>SD</th>
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<tr>
<td>Perceived Stress Scale (PSS)</td>
<td>17.81</td>
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<td>56.94</td>
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Table 8

Primary Measures - #5

University of Mississippi

<table>
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<td>5.04</td>
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Table 9

Primary Measures - #6

University of Mississippi- African Americans

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Stress Scale (PSS)</td>
<td>17.32</td>
<td>4.63</td>
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<tr>
<td>Student Stress Survey (SSS)</td>
<td>61.56</td>
<td>11.70</td>
</tr>
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<td>113.10</td>
<td>30.24</td>
</tr>
<tr>
<td>Minority Status Stress Scale (MSS)</td>
<td>53.46</td>
<td>30.15</td>
</tr>
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<td>General Health Questionnaire (GHQ)</td>
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<td>6.01</td>
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Table 10

Primary Measures - #7

University of Mississippi - Caucasians

<table>
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<tr>
<th>Measure</th>
<th>Mean</th>
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<td>27.66</td>
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<td>11.77</td>
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Table 11

Correlation Matrix of Variables - #1

<table>
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<tr>
<th></th>
<th>Age</th>
<th>Racial Comp. of high school</th>
<th># of Org.</th>
<th>PSS</th>
</tr>
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<tr>
<td><strong>Age</strong></td>
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<td>-.301**</td>
<td>-.002</td>
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<td>.048</td>
</tr>
<tr>
<td><strong># of Org.</strong></td>
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<td><strong>.153</strong></td>
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</tr>
<tr>
<td><strong>PSS</strong></td>
<td>-.002</td>
<td>.048</td>
<td>-.016</td>
<td>1</td>
</tr>
<tr>
<td><strong>SSS</strong></td>
<td>-.200**</td>
<td>-.015</td>
<td>.021</td>
<td>-.448**</td>
</tr>
<tr>
<td><strong>ISSB</strong></td>
<td>-.279</td>
<td>.033</td>
<td>.079</td>
<td>-.089</td>
</tr>
<tr>
<td><strong>MSS</strong></td>
<td>-.067</td>
<td>-.111*</td>
<td>-.138*</td>
<td>-.339**</td>
</tr>
<tr>
<td><strong>GHQ-12</strong></td>
<td>-.076</td>
<td>.131*</td>
<td>-.019</td>
<td>-.390**</td>
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</table>

Note: * = p < .05, ** = p < .01
Correlation Matrix of Variables - #2

<table>
<thead>
<tr>
<th></th>
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<th>ISSB</th>
<th>MSS</th>
<th>GHQ-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>-.200**</td>
<td>-.279**</td>
<td>-.067</td>
<td>-.076</td>
</tr>
<tr>
<td><strong>Racial Comp. of high school</strong></td>
<td>-.015</td>
<td>.033</td>
<td>-.111*</td>
<td>.131*</td>
</tr>
<tr>
<td><strong># of Org.</strong></td>
<td>.021</td>
<td>.079</td>
<td>-.138*</td>
<td>-.019</td>
</tr>
<tr>
<td><strong>PSS</strong></td>
<td>-.448**</td>
<td>-.089</td>
<td>-.339**</td>
<td>-.390**</td>
</tr>
<tr>
<td><strong>SSS</strong></td>
<td>1</td>
<td>.056</td>
<td>.410**</td>
<td>.443**</td>
</tr>
<tr>
<td><strong>ISSB</strong></td>
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<td>1</td>
<td>.045</td>
<td>-.060</td>
</tr>
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<td><strong>MSS</strong></td>
<td>.410**</td>
<td>.045</td>
<td>1</td>
<td>.339**</td>
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<td><strong>GHQ-12</strong></td>
<td>.443**</td>
<td>-.060</td>
<td>.339**</td>
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</table>

Note: * = p < .05, ** = p < .01
Figure 1

Analysis of Variance of the Influence of University Demographics and Ethnicity on Minority Status Stress
Table 12

Summary of Regression Analysis Predicting Psychological Well-Being for African-American Students from Social Support, Minority Status Stress, Demographics, and Higher-Order Interactions

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
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<td></td>
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<tr>
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<td>Dummy Sex</td>
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<tr>
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<td>-.198</td>
<td>-2.422</td>
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<td>.339</td>
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<td>.597</td>
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<tr>
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<td>.002</td>
<td>-.060</td>
<td>-.671</td>
<td>.503</td>
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<td>.073</td>
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<td>-.035</td>
<td>-.365</td>
<td>.716</td>
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<td>.268</td>
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</table>
CURRICULUM VITAE

BIANCA M. CRUDUP

2000 Lexington Pointe Dr., Apt. 3C ~ Oxford, MS 38655

601-896-1003  bianca.crudup@gmail.com

EDUCATION

UNIVERSITY OF MISSISSIPPI, Oxford, MS 2010- present
  ~ Clinical Psychology Trainee

SPELMAN COLLEGE, Atlanta, GA 2009
  ~ B.A. in Psychology, 3.69 GPA

JIM HILL HIGH SCHOOL, Jackson, MS 2006
  ~ 3.85 GPA

CURRENT POSITION

Psychology Intern for the University Counseling Center (Practicum)
  Providing therapy to students and faculty at the University of Mississippi
  Supervisor: Josh Magruder
  August 2013 to present

Graduate Level Therapist
  Supervisor: Todd Smitherman, Ph.D., FAHS
  Psychological Services Center at University of Mississippi
  August 2013 to current
Supervisor: Scott Gustafson, Ph.D.  
Psychological Services Center at University of Mississippi  
June 2013 to August 2013

Supervisor: Danielle Maack, Ph.D.  
Psychological Services Center at University of Mississippi  
August 2012 to May 2013

Supervisor: Alan Gross, Ph.D.  
Psychological Services Center at University of Mississippi  
August 2011 to May 2012

Psychology Intern for Autism Center of Tupelo (Practicum)  
Diagnostic assessments, school consulting, social skills training, discrete trial training  
Supervisor: Jeffry Scott Bethay, Ph.D.  
July 2012 to June 2013

Psychology Intern for North Mississippi Regional Center (Practicum)  
Supervisor: Jeffry Scott Bethay, Ph.D.  
July 2011 to June 2012

Research Assistant at the University of Mississippi  
Assisted in data collection and examination  
Supervisor: Olga Berkout, M.A.  
September 2010- May 2011

**PROFESSIONAL DEVELOPMENT**

Guest Reviewer *Professional Psychology: Research and Practice* 2011
WOMEN’S RESOURCE CENTER TO END DOMESTIC VIOLENCE, Decatur, GA 2009

Intern
~ Encouraged children to use non-violent resolution methods
~ Offer reassurance to children and held mini support group sessions or individual sessions where the children shared their stories of domestic/family violence
~ Assisted children with homework
~ Assisted with arts & crafts projects

SENIOR THESIS 2008-2010
“*The Relationship Between Spirituality and Perceived Stress Among African American College Students*”
~ Thesis Advisors
  o LaConyea Butler, Ph.D.
  o Kesi Miller, Ph.D.
~ Conducted using the survey method

RESEARCH ASSISTANT 2009
“*Mental Health in the Media*”- Kesi Miller, Ph.D.
~ This study sought to examine student’s reactions to mental health prior to educational enlightenment and whether reading a vignette about mental illness or seeing a clip displaying mental illness will affect the student’s reaction.
~ Conducted extensive research regarding the negative portrayal of mental health in the media
~ Developed a vignette and video that will be used in the study

CURRICULAR RESEARCH
*Personality Assessment Booklet* 2009
~ Distributed three personality assessments (Locus of Control, Life Style Questionnaire, and the Hartman Personality Profile Test) and a demographic questionnaire, scored them, and applied appropriate theories concerning personality.
~ This information was then compiled into a booklet

“*College Students and the Effects of Peer Pressure*” 2007
~ Study sought to examine whether peer pressure was prevalent among female, first-year college students or female, senior college students.
~ Extensive research regarding peer pressure among college students
~ Distributed surveys used to indicate the level to which students experience peer pressure
Results yielded that female, senior college students are more susceptible to peer pressure than female, first-year college students.

PROFESSIONAL PUBLICATIONS


PRESENTATIONS


COLLEGE TEACHING EXPERIENCE

Health Psychology (PSY 410), University of Mississippi, TA Fall 2013
Guest Lecturer, Stress, University of Mississippi Fall 2013

AWARDS & HONORS

~ Phi Beta Kappa 2010
~ Dewitt Dean’s Scholar 2006- 2009
~ Dean’s List 2007-2009
~ Psi Chi International Honor Society 2009
~ Golden Key International Honour Society 2008
~ Alpha Lambda Delta Honor Society 2007
~ National Society of Collegiate Scholars 2007

LEADERSHIP & COMMUNITY INVOLVEMENT

~ Volunteer with the National Parkinson Foundation 2011
~ Volunteer with the Blair E. Batson Children’s Hospital, Jackson, MS 2011
~ Charter member and President of the Atlanta University Center Mississippi Club 2008- 2010
~ Volunteer at Friendship Baptist Church, Atlanta, GA 2008
  o Tutored children between the ages of 7 and 12
~ Volunteer at Grady Hospital, Atlanta, GA 2008
  o Assisted nurses in the intensive care nursery
~ AIDS Walk Atlanta 2008
  o Raised over $100 towards cause and participated in walk

MEMBERSHIPS
~ American Psychological Association 2011-present
~ National Ataxia Foundation 2011-present
~ Alpha Kappa Alpha Sorority, Incorporated 2008-present