HBCU vs. PWI: Institutional Integration at PWIs and Black Doctoral Student
Depression, Anxiety, and Stress

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Jeremiah 29:11 For I know the plans, I have for you, says the Lord. They are plans for good and not disaster, to give you a future and a hope.

Proverbs 16:3 Commit your actions to the Lord and your plans will succeed.

Luke 1: 37 For nothing is impossible with God.

It takes a village to raise a child. ~African Proverb.

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Dedication

I dedicate this dissertation to

My parents Tunya Y. Richardson and Marco D. Williams;

My cousin Quenlynn Morgan and My Goddaughter Trinity Gibbs, you can do
WHATEVER you put your mind to;

My love and heart, my best friend, Rory "Ro" Sims.

Abstract

This study sought to explore the experiences of Black doctoral students at PWIs. Utilizing Tinto's (1975) theory of college student retention as a foundation, this research was guided by the premise that Academic and Social Integration are related to mental health outcomes for Black doctoral students at PWIs, and that type of undergraduate institution attended prior to graduate education is an important factor. The purpose of this study was (a) to determine whether there is a relationship between Academic Integration (as measured by Academic and Intellectual Development and Faculty Concern for Student Development and Teaching) Social Integration (as measured by Peer Interactions and Interactions with Faculty), Depression, Anxiety, and Stress for Black doctoral students at PWIs and (b) to determine whether type of undergraduate institution (attending an HBCU or PWI) is a factor that indicates differences in these variables. A total of 140 Black doctoral students from PWIs across the Midwestern, Northeastern, and Southern regions of the United States completed a demographic form, the Institutional Integration Scale (Pascarella & Terenzini, 1980), the Depression Anxiety Stress Scale (DASS; Lovibond & Lovibond, 1995), the College Academic Self-Efficacy Scale (CASES; Owen & Freeman, 1988), and the Scale of Perceived Social Self- Efficacy Scale (PSSE; Smith & Betz, 2000). Analyses conducted in this study included correlational, standard multiple regression, and MANOVA. Results of the correlational analyses showed a significant negative relationship between Depression and all four measures of Academic and Social integration. Also, Peer-group Interactions and Academic and Intellectual Development both had a significant negative relationship with

Anxiety and Stress. Results of the regression analyses showed that the three models, including all four measures of Academic and Social Integration, were significant in predicting Depression, Anxiety, and Stress. Peer-group Interactions was a significant predictor across all three models. Academic and Intellectual Development was also a significant predictor in the model predicting depression. Results of the MANOVA showed that type of undergraduate institution was a significant factor in differences between Academic and Intellectual Development and Anxiety for this sample of Black doctoral students at PWIs. Clinical implications and areas for future research are also described.

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Chapter I

Introduction

Edward A. Bouchet received the first doctoral degree awarded to an African American from Yale University in 1876 (Bridglall & Gordon, 2004). One can only begin to imagine the challenges he encountered in regards to racism and discrimination while matriculating through this institution to obtain a PhD, shortly after the abolition of slavery. Over a century later, Black people continue to experience and overcome challenges associated with racism and discrimination in a variety of different settings and Black students still continue to experience barriers to educational advancement. This is particularly true in settings which have historically limited access to Black students (i.e., institutions of higher education). These experiences can contribute greatly to students' abilities to be successful and desires to persist in the face of challenges. This can also greatly impact emotional, mental, and psychological well-being. For these reasons, the exploration of factors that impact the educational advancement of Black students is an area that deserves special attention.

Historical Context

The completion of a doctoral or professional degree represents the pinnacle of educational attainment. Higher education, in both historical and contemporary contexts, is viewed as the portal through which upward mobility (Cole & Omari, 2003), cultural uplift (i.e., a sense of unity and fictive kinship in the Black community fostered through successes and achievement; Foster, 2005), racial pride (Murtadha & Watts, 2005) and community empowerment (Maton, 2008) can be attained. During our nation's period of

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enslavement of Africans, learning to read and write bestowed certain privileges within slavery. Having these abilities offered slaves the opportunity to expand their own powers in spite of the commonly held belief that literacy was the proverbial "forbidden fruit" (Woodson, 1919; Cornelius, 1983). Literate slaves were able to teach others, communicate through slave networks, write their own passes to escape from slavery, and even use these skills for their careers once slavery ended (Cornelius, 1983). For many African Americans, literacy was viewed as the pathway to freedom (Williamson, 1999).

From the period of emancipation through Reconstruction in the South, a major federal thrust focused on uplift of the Black community and integration of Blacks into a segregated society (Polgar, 2011). During this time, there were a few predominantly white institutions (PWIs) that educated African Americans. Thus, the majority of Black students attended historically black colleges and universities (HBCUs; Lomotey, 2010). The term predominantly white institution (PWI) is used to describe an institution of higher learning in which White students account for 50% or greater of the student enrollment. However, the majority of these institutions may also be understood as historically White institutions (HWIs) in recognition of the segregation and exclusion supported by the United States prior to 1964 (Lomotey, 2010).

Since access to higher education was limited for Black students, HBCUs were founded. These institutions developed as a means of educating Black people, primarily undergraduates, prior to the desegregation of higher education institutions. Historically Black colleges and universities (HBCUs), according to the Higher Education Act of 1965, are those postsecondary educational institutions established before 1964 with their

mission being solely to educate African American students (Lomotey, 2010). This

mission still remains today, although the demographic makeup of these institutions has

become more diverse. This includes some HBCUs that have a significantly larger White

population than Black population (e.g., Bluefield State College; US Department of

Education, 2011). During this current era of post-desegregation of the educational

system (e.g., *Brown v. Board of Education*, 1954), the question has been raised about the

necessity of HBCUs (Minor, 2008). In fact, several of these institutions have been

impacted by legislation that has interrupted the continuity of their provision of a

segregated form of education for African American students (Harper, Patton, & Wooden,

2009).

Black Undergraduate Education

One arguments for integration is that the current need for segregated colleges and

universities for Black students does not exist, noting that following *Brown v. Board of*

Education (1954), segregated schools may not be as beneficial for minority students as

they once were. However, supporters of HBCUs continue to report positive outcomes,

stating that these still segregated institutions provide an environment for African

American students to grow and excel not only academically, but also mentally,

emotionally, socially, and spiritually (Allen & Jewell, 2002; Avery, 2009; Bettez &

Suggs, 2012; Knight, Davenport, Green- Powell, & Hilton, 2012). These supporters

include graduates who continually identify HBCUs as a primary source in promoting

their own development and success while pursuing their undergraduate degrees. They

are also confident that these institutions encourage the continued growth of educational

options for underrepresented students desiring to pursue higher education (Bettez & Suggs, 2012).

When examining the impact of HBCUs, several studies have found that these institutions serve as pathways to success for African American students by providing social networking and social capital (i.e., a function that allows individuals to have the privilege of benefits associated with social networks and social structures they are members of; Holmes & Carroll, 2012) opportunities. These institutions simultaneously cater specifically to the needs of African American students, which include but are not limited to support, inclusion, acceptance, and having African American role models (Allen, Jewell, Griffin, & Wolf, 2007; Lett & Wright, 2003; Guiffrida, 2005). Even when Black students were allowed to enroll in traditionally White institutions, HBCUs remained on the forefront of not only acting as change agents for race relations in American society, but also in developing social influencers that would become leaders of the civil rights movement and pioneers in various professions and scientific fields (e.g., Kenneth and Mamie Clark, psychologists that served as expert witnesses in cases related to *Brown v. Board of Education* (1954), both graduated from Howard University; Allen & Jewell, 2002).

Until *Brown v. Board of Education* (1954), access to PWIs was practically nonexistent for Black students. Between the 1940s and 1960s, Black students were met with significant resistance to their presence on campuses of PWIs. During the 1970s, many Black students at PWIs embraced the Black Power movement and began to express more cultural pride and uplift, but their presence on campus was not enough to transcend

the pervasiveness of them not being welcomed. Black students were often exposed to hostile campus environments and often had to defend their right to be on campus and their intellectual abilities (Williamson, 1999). While today, PWI campuses are not fraught with overt exclusion and discrimination as was present in the late 20th century, remnants of this history still remain present and profoundly impactful on Black students' experiences.

Most of the literature discussing African American students at PWIs paints a picture of students that experience significant challenges and difficulties on the path to completing their degrees (Guiffrida, 2006a; Guiffrida & Douthit, 2010; Love, 2009; Rankin & Reason, 2005). In spite of successes, many Black students still report significant barriers related to race and social systems that impact their undergraduate education at PWIs. Students report finding difficulty in establishing interpersonal relationships with faculty (Holmes, Ebbers, Robinson, & Mugenda, 2001); less student involvement/engagement (Outcalt & Skewes, 2002); shared feelings of isolation, nonacceptance and rejection (Lett & Wright, 2003); and racial discrimination and stereotypes (Love, 2009).

There is a heavy focus on retention of Black students at PWIs, in part due to the strikingly large differences in completion rates between HBCUs and PWIs (Rodgers & Summers, 2008). However, there is not much literature that presents the perspective of being an African American student at a PWI, and also being successful within the environment. For example Davis et al. (2004) explored the experiences of Black undergraduate students at PWIs and found that students' were able to be successful in

spite of the challenges. Fries-Britt and Turner (2001) explored through focus groups the stereotypes that threatened to challenge Black students' sense of self and endangered their academic performance. These students however were able to persist in spite of these threats. Fries-Britt and Turner (2002) suggested that the personal and institutional systems at PWIs must be structured to support Black students.

Black Graduate Education at HBCUs

When originally founded, HBCUs were designed to provide education to undergraduate students. In fact, they were often considered to serve as "feeder schools," sending many of their students on to PWIs for graduate education (Taylor, 2012).   Most of these institutions did not, and still do not, offer graduate and professional degrees. As such, Black students had limited options to choose from when pursuing graduate degrees, which resulted in students, more often than not, attending a PWI for graduate school. This continues to be the trend, although the options to attend an HBCU for graduate education are steadily increasing. Research suggests that as more HBCUs offer graduate and professional training, there will be an increasing number in enrollment at these institutions (Redd, 2008). For example within the past 10 years, at least four HBCUs, have been listed in the top ten institutions for awarding Black students doctoral degrees (Taylor, 2012). These numbers exceeded those institutions that have been offering graduate training programs for centuries and institutions that have more funding for graduate assistantships and research.

Recently, a book entitled *Black Graduate Education at Historically Black Colleges* was released containing several articles that explore this area of interest

(Palmer, Hilton, & Fountaine, 2012). This book details the experiences of Black

graduate and professional students at HBCUs, which has tended to be consistent with the

reports of undergraduate students about the environment of the HBCU. This book also

considered the barriers and challenges that present themselves at these institutions.

Among the top challenges were the lack of financial aid and less resources in terms of

financial support, administrative support, and current technology, than were often allotted

to PWIs (Palmer, 2012). While these challenges are different from those reported by

graduate students at PWIs, it is important to note that both of these types of institutions

present benefits and challenges for Black students.

Another key aspect of this book included suggestions for helping HBCUs to

thrive in providing graduate education to Black students. This author charged presidents

of these universities with developing a more comprehensive doctoral curriculum and

platform for HBCUs. The need for federal support and funding to incorporate these

initiatives was also among the list of suggestions. As graduate education continues to

grow at HBCUs, the impact this has on choice of institutions to attend for graduate

education will be an interesting area of exploration. Collectively, however, PWIs are still

where the majority of Black students are enrolled in order to obtain their advanced

degrees. This calls into question how to support Black students in their experiences in

PWIs. The following section explores the concepts of academic and social integration,

which will be discussed more in depth in the next chapter, as a possible means of being

more helpful to Black students in graduate education at PWIs.

Campus Environment

Institutions of higher education were historically designed for the dominant culture in American society, specifically white upper class males. Needless to say, the demographics of students who are progressing on to higher education in the United States have changed dramatically but the question of whether these institutions have the flexibility to be aligned with the norms, values, and expectations of diverse students is still an area of concern. As was described in the section above, HBCUs were specifically designed to cater to Black students. There are also Minority Serving Institutions (MSI) and Hispanic Serving Institutions (HSI) that were designed to meet the needs of various minority groups. However, the enrollment at PWIs provides evidence that students of all backgrounds continue to be attracted to these institutions for their educational aspirations. With their dreams and goals set in their minds, these students prepare for an educational journey that often has more roadblocks than originally anticipated. These students are commonly met with discrimination in many forms, which greatly impact their social engagement and often times their academic ability.

Gaining a better understanding of how institutions can make their environment more inclusive and more welcoming for Black students, and all students of color, is of extreme importance. This is also important for mental health providers to understand. This is especially true for university counseling centers so that they are prepared to work with and advocate for these students. Outreach to these students is also of great importance since Black students are less likely to seek mental health services than White students (Ayalon & Young, 2005). Cultural mistrust of counseling centers that consist of predominately White staff members and expectations that services would not be

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satisfactory negatively impact Black students chances of utilizing mental health services (Nickerson, Helms & Terrell, 1994).

Racism and Mental Health

The consideration of the health factors related to racism and discrimination has been a topic of research for many years. It has been found that racism and discrimination impacts physical (Paradies, 2006) and psychological well-being (Pieterse, Todd, Neville & Carter, 2012). It greatly impacts job satisfaction and productivity (Holcomb-McCoy & Addison-Bradley, 2005). For students, it impacts their abilities to perform academically and increases their anxieties about outcomes in future environments (Harrison, Stevens, Monty & Coakley, 2006). In general, the nature of devaluation because of the racial group a person belongs to, results in the world not feeling safe for Black people (Purdie-Vaughns, Steele, Davies, Ditlmann & Crosby, 2008). It can often lead to feeling a sense of hopelessness and despair about the future as well as paranoia (Combs et al., 2006). When considering the role that the institution can play in increasing depression, anxiety, and stress, there must be exploration of the needs that are not getting met by these institutions of higher education. This assessment can offer information about the different kinds of support that can and should be implemented in order to make sure Black students successfully progress in their educational endeavors. Understanding the experience of Black doctoral students and their mental health will be a significant factor in informing the educational systems at PWIs and HBCUs for both graduate and undergraduate study.

Outline of Dissertation

In this chapter, I presented a historical context for the problem being studied in this dissertation and the significance of the problem. This included the importance of educational attainment for Black people, communities, and society as well as the barriers that have created challenges for attaining these achievements. This chapter also provided a context for the study of mental health in the Black community and how this impacts educational attainment and help seeking behaviors. Chapter II will include a literature review of the research that currently exists related to this topic. This review of literature will include a presentation of the theoretical foundation of this dissertation, an exploration of the examined variables and literature for these variables specific to this population, the purpose of the study, research questions, and hypotheses. The review of literature will describe in detail the current experiences of Black doctoral students, their needs in graduate school at PWIs, and mental health outcomes. In this chapter, gaps and areas for further research are presented. This chapter is designed to set up the need for the current study and areas this study hopes to address. Chapter III will describe the methods and procedures used for the current study, which will include descriptions of the participants, measures, procedures, and analyses. This chapter will also include the descriptive information of the institutions, both the targeted PWIs and several HBCUs, included in this study. Chapter IV includes a presentation of the results from the data analyses. Chapter V presents a discussion and interpretation of these results, limitations, future research, and clinical implications.

Chapter II

Literature Review

Statement of the Problem

According to the 2010 United States Census, 14% of the population identifies as either Black alone or Black mixed with at least one other race (Rastogi, Johnson, Hoeffel, & Drewery, 2011). The percentage of Black students enrolled in degree granting institutions in the fall of 2008 was also 14%, and therefore representative of the Black population in the U.S. About 11% of these Black students attended HBCUs as undergraduates (US Department of Education, 2011). Statistics also indicate that HBCUs consistently graduate proportionately more of their enrolled African American students than PWIs (Allen, 1992; Provasnik, Schafer, & Snyder, 2004). For example, in 2001, 87.1% of Black students attended PWIs and accounted for 78.5% of degrees granted; while HBCUs accounted for 12.9% of Black undergraduate enrollment and 21.5% of conferred degrees (Provasnik, Schafer, & Snyder, 2004).

Despite the controversy around whether or not HBCUs are as effective as PWIs in educating African American undergraduate students (Kim & Conrad, 2006), statistics indicate that graduates of HBCUs are more likely to aspire and pursue advanced degrees (Allen, 1992). For example, in 2012, of the top ten colleges that graduated African American students who go on to obtain PhDs, nine of those institutions were HBCUs (Knight et al., 2012). Furthermore, 15% of Master's degrees, 10% of doctorate degrees, and 15% of first professional degrees are awarded to Black students who obtained their undergraduate degrees from HBCUs (Allen et al., 2007). Moreover, of all the African

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American students that graduate from HBCUs with undergraduate degrees, 50% go on to graduate or professional schools (Bettez & Suggs, 2012).

As African American students go on to pursue graduate level degrees more often than not, most choose PWIs (Lundy-Wagner, 2012). Specifically, in 2008, 90% of Black graduate students attended PWIs and only 10% attended HBCUs (US Department of Education, 2011). In 2001, PWIs accounted for 89.3% of African American doctoral degrees awarded that year (Lundy-Wagner, 2012). Within these PWI environments, many Black students experience significant psychological stressors that can lead to premature dropping out at rates higher than their white counterparts, and can also lead to slower progress when working toward obtaining doctoral degrees (Gasman, Hirschfield, & Vultaggio, 2008; Lett & Wright, 2003; Lovitts, 2001).

Research shows that students of color in general, and African American students specifically, experience higher levels of isolation and exclusion in graduate training programs at PWIs (Johnson-Bailey, Valentine, Cervero, & Bowles, 2008; Johnson-Bailey, Valentine, Cervero, & Bowles, 2009). One reason may be the differences in how students experience the HBCU environment as undergraduates and how they experience the PWI environment as graduate or professional students. This contrast could take a psychological toll on African American students. For example, researchers have found that African American students who attend PWIs experience discrimination (Feagin, 1992) and difficulty in building relationships with White faculty (King, 1994). They are less likely to obtain their degrees (Guiffrida & Douthit, 2010), have less confidence in regard to their future goals (Fleming, 1984), and have feelings of depression, dissonance

and disconnection with their pursuit of higher education (Smith, 1988; Williams & Williams-Morris, 2000). This is different from the HBCU environment, which is often described as being supportive, nurturing, and positive (Palmer, 2012) and as having higher levels of engagement and fostering a sense of belonging (McGaskey, 2012). Given the differences in the HBCU and PWI environments for Black undergraduate and graduate students, an understanding of the factors and experiences that contribute to psychological stressors and attrition rates for Black doctoral students at PWIs is of great importance.

Rationale for the Study

Tinto (1975, 1993) has suggested that there are positive outcomes for Black students who attend HBCUs as undergraduates compared to students who attend PWIs. This is due to, among other factors, opportunities to achieve a greater level of academic and social integration in the HBCU environment. Greater integration at the undergraduate level could also have positive effects on Black students who then go on to attend PWIs for graduate school. Furthermore, being academically and socially integrated at PWIs can play a large role in Black students' mental health, matriculation, and persistence to complete their graduate studies.

There have been several studies that examine whether there are in fact positive effects of attending HBCUs as undergraduates on graduate students' aspirations to and success in PWI graduate programs (Joseph, 2012; Perna, 2001; Strayhorn, 2008). However, results of these studies are inconclusive. When examining the impact of attending HBCUs, several studies have found that these institutions serve as pathways to

success for African American students by providing social networking and social capital opportunities and catering specifically to the needs of African American students (Johnson, Conrad, & Perna, 2006; Wilson, 2007). These needs include but are not limited to, support, inclusion, and acceptance, which are all components of social integration (Allen et al., 2007; Guiffrida, 2005; Lett & Wright, 2003).

One study also found that African American students who attend HBCUs as undergraduate students and then attend PWIs as graduate students showed significantly higher self-ratings on measures of confidence and self-esteem, retention rates, and academic aspirations than African American students who attend PWIs for both their undergraduate and graduate programs (Allen, 1992). These findings provide evidence that attending HBCUs as undergraduates can be related to positive educational and mental health outcomes.

Conversely, the results of other studies indicate no differences in levels of success in graduate education between attending HBCUs and PWIs as undergraduates. For example, the results of a study conducted by Perna (2001) suggest that when controlling for background demographic characteristics and undergraduate and graduate experiences, the rates of graduating from graduate school is unrelated to completing a bachelor's degree from an HBCU or from a PWI.

The research regarding relationships between social and academic integration, mental health outcomes and academic outcomes for Black graduate students is limited. This is also true for research regarding attending HBCUs as undergraduates and experiences at PWIs as graduate students. There is also evidence that suggests that

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students differing on characteristics such as degree program, year in program, age, and gender might want or need more or less academic and social integration in order to persist in completing graduate school and alleviate poor mental health outcomes (Tinto, 1993; Nettles & Millet, 2006). Therefore, research needs to be conducted in order to clarify these relationships.

The purpose of this literature review/critique is to provide the context for conducting a study that explores the relationships between social integration, academic integration, and challenges to mental health. In order to do this, I will first introduce a theory of college student retention, which includes, at its core, the concepts of academic and social integration. I will also present the proposition from that theory that students who are academically and socially integrated have increased retention and academic success. I will then review literature on outcomes for college students based on academic and social integration. While there is not a significant amount of research in this area, I will include literature that makes the argument for meeting the academic and social needs of Black doctoral students at PWIs and how this can assist these students to persist in obtaining their doctoral degrees.

Following this, I will present the pertinent literature related to the variables included in this study: academic/intellectual development, perceptions of faculty concerns with teaching and student development, peer relationships, informal relationships with faculty, undergraduate institution (HBCU or PWI), depression, anxiety, and stress among college and university students. This will also include the small amount of literature focusing specifically on Black graduate student mental health.

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Discussions of the function of identified covariates (gender, year in program, and degree program) will be included within sections on the other study variables.

Finally, I will combine these ideas in a discussion about how Black students are integrated into the academic and social systems of PWIs, and what the literature says about how this impacts their mental state and the role that their undergraduate institutions may play in these relationships. I will also discuss what is missing from the current research. In the purpose of my study, I will explain how the current study seeks to address gaps in the literature. Research questions and hypotheses for this study will also be presented at the end of this chapter. These areas of research can inform, not only clinical conceptualizations for Black doctoral students at PWIs, but also doctoral education at PWIs and potentially undergraduate education at both HBCUs and PWIs.

Theory

As stated above, Tinto (1975, 1993) has suggested that there are positive outcomes for Black students who attend HBCUs as undergraduates compared to students who attend PWIs. He also constructed one of the most widely used theories of students' premature departure from college. In his theory of student departure, he proposed that social and academic integration, along with other pre-existing factors, greatly influence college students' decisions to persist in college (Tinto, 1975). As a foundation, Tinto (1975) drew on concepts from Durkheim's' Theory of Suicide to develop his theory of student departure. Durkheim's theory suggested that individuals are more likely to commit suicide when they are not sufficiently integrated into society, specifically as it relates to moral integration (i.e., considering personal values to be divergent from those

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of the collective society) and collective affiliation (i.e., lack of satisfactory personal connections with others in the collective society). Tinto (1975) argued that by viewing the systems of college as containing its own norms and values similar to a societal structure, Durkheim's theory of suicide could be likened to that of dropping out of college. According to Tinto, this theory provided a descriptive foundation for the reasons that lead to students dropping out of college prematurely. Informed by Durkheim's theory, Tinto (1975) proposed that individual differences alone do not account for whether students persist in college until they graduate. Rather, he argued that these students' levels of academic and social integration are potentially stronger determinants than their individual character traits, prior experiences, or commitment to their respective institutions.

Tinto (1975) postulated that while family background, educational experiences, and goal commitments are predictors of college persistence, institutional factors must also be included as a means of explaining college dropout. Challenges related to isolation, incongruence, adjustment, and level of difficulty are significant factors in determining whether college students persist to graduation. These factors are specifically related to adapting to college life, thriving in college level work, and experiencing matches between individual characteristics and social and academic interactions (Tinto, 1993). Specifically, he argued that college persistence can be explained by students' social and academic integration into the institution. Tinto (1975) differentiated between academic and social integration, stating that although both are systems that promote college student matriculation, the normative and structural integration into the academic

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system is different from that of the social system. Emphasizing this difference also suggests that being able to achieve academic integration does not necessarily suggest that a student will achieve social integration.

Academic Integration

Academic integration can be defined as individuals' successful academic performance as well as their academic development (Tinto, 1975). When considering these two factors, they represent both extrinsic and intrinsic rewards and/or values. Academic performance represents students' participation in the college environment and because it is tied to some type of systematic, measurable evaluation of student success (i.e., GPA), it can lead more readily to extrinsic rewards. On the other hand, intellectual development is intrinsically rewarded given that it is not often measured nor rewarded by external means. Intellectual development, if it is in fact noticed at all, is more often determined by students' self-evaluations of their intellectual growth. Although grade performance is the most tangible way to measure academic development, another important, often less assessed component, is a personal self-evaluation that can assist researchers and counselors in discriminating between students who leave college because they do not meet academic standards from students who leave college because they do not believe they are progressing intellectually (Tinto, 1975).

Social Integration

Social Integration can be defined as the interaction between characteristics of individual students and characteristics of the institution. Tinto (1975) asserted that social integration includes three different areas, informal peer interactions, semi-formal

extracurricular activities, and interactions with faculty and administrative personnel.

Encounters with these different constituencies usually lead to social rewards that impact how individual students evaluate the institutional system. Controlling for other variables, social integration can be an integral factor in increasing the likelihood that students will remain at an institution. In testing this theory, Tinto (1975) found that friendship, support, and perceptions of social integration were directly related to persistence. The support of friends appeared to be a significant factor even if students did not feel congruent with the social system of the institution. In fact, it was found that the support of friends could be the sole predictor of social integration. Therefore, it could be assumed that congruency with any aspect of the social system is sufficient in providing a means for social integration and thus increased likelihood of persistence. The interaction with faculty also presents a significant component of persistence. Since these interactions represent a more direct association with the academic system of the institution, both social and academic integration rely on these interactions.

Doctoral Student Persistence

In 1993, Tinto published a revision of his theory of college student departure. In this revision, he sought to attain two goals. First, he attempted to present a theory of student departure that synthesized the existing research about student attrition. Secondly, he sought to make suggestions for increasing student retention. Furthermore, this revision included a proposed model for the process of successful doctoral degree completion. Tinto (1993) asserted that, within the context of the academic and social systems of the university, previous research related to doctoral persistence include

components such as personal and intellectual interactions with peers and faculty that are similar to undergraduate persistence. Tinto (1993) argued, however, that previous studies on graduate persistence failed to take into account the longitudinal process. This includes the great variation in the way events shape persistence in the beginning, middle, and end of the graduate and professional student career. Therefore, Tinto developed a model based on findings that doctoral persistence was marked by at least 3 distinct stages: transition and adjustment, attainment of candidacy or development of competence, and completion of the dissertation.

In the transition and adjustment stage of this model, which typically occurs during the first two years of study, doctoral students are seeking to establish membership and determine whether or not the norms of the communities resonate with their own personal values and expectations. Another critical task in this stage is for the students to identify mentors and establish relationships with faculty, cohort members, and other future colleagues. In this stage, an imperative task for students is to determine whether their individual goals and commitments are in line with their current institution and their future profession. This involves making a series of decisions about the costs and benefits of moving forward in the institution and the program.

Following this, students move into the Attainment of Candidacy (Development of Competency) stage where they are acquiring knowledge that will ultimately prepare them to pass their comprehensive exams, to attain candidacy, and to conduct their own research. The critical issue during this period is the development of academic skills and the assessment of academic abilities. While students are focused on engaging the

academic environment, their social interactions often become intertwined with their academic endeavors. Students become involved in classroom discussions or research activities with peers, develop ongoing academic, formal and informal relationships with faculty, and begin to consider committee members. Since social and academic experiences are highly connected with one another during this stage, students' social experiences have the potential to influence the development of both academic competency and academic skills, based on the judgments of peer groups and faculty members. For example, students' perceptions of how faculty judge their level of competence formally, in the classroom, and informally, in the hallways and offices, impacts the students' academic development.

The final stage of this model, Completion of Dissertation, covers the time from the gaining of candidacy to the defense of the dissertation and ultimately, to the end of their doctoral education. During this stage, academic competences and abilities developed in previous stages are essential, but the relationships and interactions with faculty also have a significant role. Students spend a substantial amount of time during this phase interacting with a small group of faculty members, namely their advisor and committee members. This particular interaction continues to shape the students' perceptions of the field and may possibly be invaluable in the students' successful early entry into the field. This is also a stage where the external communities become a significant factor in doctoral persistence. The support for doctoral students during this stage could make the difference between success and failure.

Based on this synthesis of the literature, Tinto (1993) offered several areas for

future research around doctoral student persistence. Due to the lack of research in this area, the longitudinal model that he presented was strictly speculative. While this model attempted to take into account individual attributes at entry into the doctoral program and the varying levels of interactions needed at each stage in order to successfully transition into the following stage leading up to doctoral degree attainment, it needs empirical support. Tinto (1993) called for empirically designed research studies that will document the variations in the graduate persistence process. Tinto also encouraged more elaborate studies of faculty-student interaction, as well the differences in experiences of students of color, and students of different ages and genders. Finally, Tinto suggested that research explore how this process is different for degree programs across and within institutions.

Researchers have explored academic and social integration as it concerns graduate school students. Findings of this research support the idea that the functions and outcomes of academic and social integration are similar for graduate students when compared to those of undergraduate students. Spaulding and Rockinson-Szapkiw (2012) identified several academic and social integration factors that supported doctoral student persistence. Similar to Tinto's (1993) theory, they noted that the support of friends, family, and significant others, as well as the support of faculty, including selection of committee members, contributed greatly to perseverance and success in doctoral programs. They also found that doctoral students identified institutional factors, such as program characteristics and cohort models, as important to their persistence. Lovitts (2001) posited that students who are integrated academically and socially are less likely to drop out of graduate school. Lovitts (2001) also charged institutions to create an

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environment in which students feel they can integrate by engaging in strong professional

relationships with faculty. While there appears to be more interest in studying the social

integration of graduate students, particularly when it comes to Black graduate students

(e.g., Defour & Hirsch, 1990), the research that exists is limited, and it is even more

limited as it relates specifically to ethnic minorities in graduate school.

Cultural Factors in Tinto's Theory

Despite the popularity of Tinto's (1975, 1988, 1993) theory, it has been criticized

for not attending to the importance of cultural factors. Tinto briefly introduces age,

gender, and socioeconomic status into his discussions of college student retention but

does not necessarily integrate a thoughtful understanding of how this model incorporates

cultural factors. He states that race is a factor that still needs to be investigated in relation

to dropping out of an institution of higher education. However, when discussing his

model of doctoral persistence, he only vaguely indicates that the "experience of minority

students, of some older students, and in some fields of some female students will, to some

degree, always be conditioned by the nature of social judgments made by faculty as

requisite characteristics of student membership in a given field of study" (Tinto, 1993, p.

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Tinto (1993) also includes a review of literature that focuses specifically on

minority students and disadvantaged students. He noted that some literature suggests that

disadvantaged Black students do not have the academic ability to perform in these

environments, which limits their ability to academically integrate; while competing

research suggests that the climate or the environment contributes greatly to their inability

to perform and academically integrate. Black students who, whether directly or subtlety, experience faculty as unsupportive of their abilities or lacking confidence in their appropriateness to be at the institution, are less likely to feel academically integrated. Furthermore, he states that African American students might face barriers, which are unique in comparison to other students. These barriers could significantly impact their ability to become both socially and academically integrated at PWIs (Cabrera, Nora, Terenzini, Pascarella, & Hagedorn, 1999; Tinto, 1993). His rationale for this conclusion is the incongruence between the norms and values of African American college students and those of the dominant White majority of the institution (Tinto, 1993). To further understand this, some studies have explored this model with diverse populations and considered how to make it more applicable to students of other racial, ethnic, and cultural backgrounds.

For example, Guiffrida (2003) utilized Tinto's theory to explore the role that on-campus organizations play in the social integration of African American students into the college environment. In this study, he sought to examine if and how student organizations at PWIs contribute to social integration. The findings of this study offer support for Tinto's (1993) theory of social integration with African American college students. However, these findings also suggest that some modifications be made, specifically to include the role of ethnic organizations, racial identity development, and providing cultural connections for Black students. Related to this study, Guiffrida (2006b) sought to further explore Tinto's theory by providing a conceptual framework of how to make Tinto's theory more culturally sensitive.

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In the first study, Guiffrida (2003) gathered data from interviewing a sample of 88 African American undergraduates at a PWI. From these interviews, several themes arose related to students' experiences of social integration on a predominately white campus. These themes included students' ability to make out-of-class connections with faculty (informal faculty interactions), as well as with other Black students (peer interactions), which in turn helped them feel more comfortable in the environment. In this study, student organizations afforded these students valuable opportunities to make out of classroom relationships with Black faculty. Another theme, that was specific to Black students from predominately White home communities, included exposing and connecting these students to African American culture (Guiffrida, 2003). His results were consistent with Tinto's (1993) theory, which acknowledged the importance of student organizations in social integration processes for African American college students at PWIs.

The purpose of Guiffrida's follow up article (2006b) was to highlight social and cross-cultural psychological principles (e.g., cultural norms, motivational orientation, and college academic achievement and persistence), and how these can be integrated into Tinto's theory to enhance it, strengthen it, and make it more inclusive of minority students (Guiffrida, 2006b). To further expand upon the suggestions of Guffrida (2006b) and examine whether these suggestions applied to African American doctoral students, Hunn (2008) conducted a qualitative research study to identify the factors that determine persistence for African American doctoral students at PWIs. Hunn (2008) noted that while Guiffrida's (2006b) critique and suggestions were relevant for this population, it

still failed to include the important role of external communities and racism in understanding persistence for this population. The students in this study consistently described both of these factors as salient in their progression towards a doctoral degree. While Hunn (2008) did not suggest a model for retention, she confirmed that a model of persistence for Black doctoral students is much needed and must include these factors in order to be culturally relevant.

Rodgers and Summers (2008) examined the existing literature to understand African American experiences of the retention processes at PWIs. Based on this literature, they sought to revise Bean and Eaton's (2000) model of college retention, which was a revision to Tinto's (1993) model, to include a more psychological approach. Using Bean and Eaton's model as their framework, they proposed incorporating factors of race and culture that could contribute to understanding this group's retention processes and make it more culturally sensitive. This literature review was reported to be the first attempt at applying this model to specifically African American college students.

From their review, Rodgers and Summers (2008) concluded that the retention processes for African American students at PWIs do not fit neatly into the traditional models of college student retention. Therefore, they suggested the utilization of statistical testing, such as structural equation and hierarchical models, to determine a model for this population. They also concluded that based solely on retention statistics, HBCUs are providing something for their African American students that PWIs are not. Factors such as race, ethnicity and bi-culturalism appear to be important to African American college student retention at PWIs. Therefore, more of an effort to incorporate

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these factors into developing the appropriate model for this group of students should be demonstrated and could have a significant impact on increasing retention.

Metz (2005) conducted a literature review that explored the development of Tinto's theory of persistence and the future of persistence research. This article detailed how Tinto's theory has developed over time. For example, it included the expansion on his 1975 work to include ethnographic information such as background variables. It also noted the inclusion of psychological, societal, economic, organizational, and interaction factors. This article also detailed the various researchers that have critiqued Tinto's theory and contributed to further enhancement of the model. He also suggested that researchers explore the relationship between social and academic integration and how these factors could impact persistence and retention. Metz (2005) noted in this literature review on student persistence that limited research exists on other racial/ethnic groups, notably African Americans. He also observed that relatively few studies exist which examine persistence at women's colleges and historically black institutions.

In a further description of his model of dropout, Tinto (1975) explains that this process is longitudinal and consists of an interaction between how the student individually experiences the academic and social systems of the college. Lack of social and/ or academic integration in turn leads to low commitment, which results in an increased probability that students will leave college (Tinto, 1975). Tinto also included suggestions that institutional type and factors greatly impact students' persistence. His assumptions were primarily based on the research existing around 2- and 4- year public and private institutions. This presents an opportunity for future research to explore

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further different institutions. While the aforementioned studies offer useful information in understanding the expansion and application of Tinto's model to minority populations, specifically Black college students, the current study seeks to further expand upon Tinto's theory, explore its application and mental health outcomes for Black doctoral students, while also considering undergraduate institution as a factor. The following section includes a review of the relevant literature related to each of the variables in this study.

Variables of Interest

Several years after Tinto presented his theory, other researchers attempted to support its predictive validity (e.g., Pascerella & Terenzini, 1977; Terenzini & Pascerella, 1977; Terenzini & Pascerella, 1978). However, Pascerella and Terenzini (1980) concluded that these previous attempts were not sufficient and developed a measure to examine academic and social integration and measure their predictive validity. They developed a multidimensional measure that they argued would differentiate between students who persisted through college and students who dropped out of college, while holding characteristics (e.g., sex, racial/ethnic origin, high school achievement, academic aptitude, and parents formal education) of the students when entering college constant.

From their attempts to develop a measure and test its validity, they found that academic integration was measured by students' academic/intellectual development, and their perceptions of whether faculty were concerned with teaching them and with their development as students. Social integration was measured by the quality of peer interactions, and students' perceptions of having positive, supportive relationships with

faculty. Next, I will describe both academic integration and social integration in more detail, and also describe each of the factors that comprise academic and social integration (as conceptualized by Pasceralla and Terenzini, 1980).

Academic and Intellectual Development

Graham & Donaldson (1999) sought to explore the academic and intellectual development of adult learners, also known as non-traditional college students, in comparison to traditional learners, or college-age students. They indicated that many non-traditional students have other responsibilities outside of school, such as jobs and family, which impact their ability to engage in their educational endeavors in the same way traditional students can. In this study, adult learners experienced greater growth over 26 measures of academic and intellectual development despite significant differences in their involvement in on- and off-campus activities. Themes for academic and intellectual development in this population included broadening of intellectual interests, critical thinking skills, enhancing study skills, understanding and applying science and technology, and career development (Graham & Donaldson, 1999). Although they are neither matriculating through undergraduate curriculums nor expected to have similar experiences as undergraduate students, they have a different way of engaging with the institution, which impacts their experience. However, the participants in this study were in school from 1993-1996, which reflects patterns of adult matriculation through college 2 decades ago. With the rapid changes in learning environments, particularly with advancements in technology, it would be useful to replicate this study with the current population.

When specifically considering the academic development of Black college students attending HBCUs vs. Historically White Colleges and Universities (HWCU), which are termed in this current study Predominately White Institutions (PWIs), researchers have often sought to determine whether students' development differs based on institution. In order to address this area of understanding, Kim (2002) conducted a study of academic development for Black college students. In this study, academic development was measured using self-report scales of academic ability, writing ability, and math ability. The primary independent variable was undergraduate institution (i.e., attending an HBCU or an HWCU). Utilizing national longitudinal student data from the Cooperative Institutional Research Program (CIRP), Kim (2002) sampled Black college freshman attending four- year colleges and universities. The final sample included 1, 069 African American freshman who also answered the follow-up survey. In terms of institutions, the data set includes 10 HBCUs and 71 HWCUs. Results of this study indicate that attending HBCUs or HCWUs for undergraduate education was not significantly different in academic development for Black students. However, after further exploration, they found that the development of writing ability was significantly impacted by percentage of faculty on campus who had PhDs. Specifically, having a lower percentage of faculty with PhDs was related to students having less well-developed writing skills than students on campuses with a higher percentage of faculty with PhDs (Kim, 2002).

One of the strengths of this study is the decision to control for same-sex institutions included in the sample. Since being a student in a same-sexed institution has

been related to higher grades and more students matriculating into graduate programs, it is possible that the apparent effects of attending HBCUs versus attending HWCUs are confounded by attending same-sex versus attending co-ed colleges (Kim, 2002). However, one of the weaknesses of this study is that it was completed in 2002, over a decade ago, and these data for the study were gathered over two decades ago (with initial surveys completed in 1985 and follow-up surveys completed in 1994). Similar to the previous study, the findings from this study may be outdated and it is possible that these findings would not apply to the current generation of Black students. This study also failed to discuss whether the findings were confounded with quality of the institution or quality of the students. Because of the potential history effects and possibly confounding variables, there is still a dearth of information regarding whether Black students academic and intellectual development differ as a function of their undergraduate institution. This indicates a need for this study to be replicated and assess how Black students are able to be successful in their academics regardless of what kind of institution they attend for undergraduate education.

In exploring the academic competence of college students and what impacts their academic and intellectual development and growth, Reason, Terenzini, and Domingo (2006) found that the first and second year of college is profoundly impactful. They noted that characteristics the students brought into college (e.g., sex, race/ethnicity, age, academic major and parental education) were not meaningful in terms of academic competence. They did find, however, that student experience and academic engagement were significant factors in developing academic competence. Their measure of student

experience included the support they received during their first year and this was found to be the strongest predictor of academic and intellectual development. They also noted that relationships with faculty and staff wherein they received both academic and non-academic support enhanced their development. Ultimately, Reason et al. (2006) concluded that there are multiple factors that contribute to academic and intellectual development. Several dimensions were included in this study, such as Engagement, Diversity, and Improvement. While, the findings of this study would suggest that pre-existing characteristics do not significantly impact academic/intellectual development, a component of academic integration, these findings suggest that there are different experiences for students based on their year in the program. However, it does not explore the impact of degree program as a factor.

Faculty Concern with Student Development and Teaching

There is limited research on faculty concerns with teaching and student development and outcomes of this factor for both undergraduate and graduate students. While student-teacher interactions have been shown to be a strong predictor of college student persistence (e.g., Cotten & Wilson, 2006; Lundberg & Schreiner, 2004; Nettles & Millet, 2006), these findings have been incidental, and very few studies have actually focused specifically on these interactions as their focus of study. When developing their measure for academic and social integration, Pascerella and Terenzini (1980) found that in considering interactions with faculty, the factors loaded into 2 separate categories. One of those categories was related to informal interactions with faculty, which will be discussed in a later section, but the other factor was related to the students' perceptions of

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faculty concern for student development and teaching.

As was stated, many of the findings related to this variable were incidental. For example, Reason et al. (2006) also reported the impact of faculty performance indictors on academic and intellectual development. They noted that faculty members who were active in conferences that focused on teaching and learning or reported that they were invested in learning about ways to improve the first-year experience for students were primary factors in students obtaining higher levels of academic competence (Reason et al., 2006). Still, other researchers have had similar findings. Nettles and Millett (2006) found that academic interactions (defined as faculty feedback, faculty interest in student research, and quality of advising) between doctoral students and faculty were qualitatively different than social interactions.

Nettles and Millett (2006) also reported that Black doctoral students in engineering, science and mathematics indicated that they had significantly fewer academic and social interactions with faculty than did students from other racial groups. Another consideration for academic interactions with faculty was differences in gender. In departments such as engineering, women reported significantly fewer academic and social interactions with faculty than men. They also reported significantly fewer academic and social interactions with faculty than men in departments of education, which is surprising given that education is a female dominated field (Nettles & Millet, 2006). In sum, these research findings indicate that there are differences in academic and social interactions between races, between genders, and among fields of study.

Analogous to these studies, Davis et al. (2004) found that students' perceptions of

faculty members' concerns about student development and teaching impact their abilities to thrive in academic environments. These researchers made suggestions for how faculty members could reduce these negative consequences for African American students. They proposed that faculty members learn how their pedagogy and their willingness to improve can significantly impact the atmosphere for African American students where they do not feel a need to prove they are worthy. This can be achieved through continually assessing Black students' experiences, learning about cultural identity development, assessing their own behaviors, and listening to the stories of students. They also encouraged administration and faculty to become culturally competent as a foundation to working with Black students in particular and with minority students in general (Davis et al., 2004).

Peer-group relationships

Social support, a component of social integration, appears to be a significant factor in helping students' progress towards obtaining a doctoral degree. In a study conducted by Jairam and Kahl (2012), individuals who successfully completed their doctoral degree identified social support systems as significant factors in educational advancement. Positive social support systems, which helped doctoral students succeed, tended to include social support from other doctoral students or peers, family, and faculty. These researchers identified students' abilities to provide shared experiences as a means of direct support (Jairam & Kahl, 2012). Academic competition with peers was identified as a hindrance to degree completion. The most important social support mechanism for these students in terms of supporting their emotional, academic and

professional development was peer relationships. However, this study is limited by its

lack of reporting the racial/ethnic demographics of the study sample. Therefore, the

context of how to apply these findings is unclear. This study may also be limited because

it was retrospective in that participants were sampled after the completion of their

degrees. Reflecting on experiences that have already happened could lead to different

understandings, and thus reporting, than students who are currently in doctoral programs.

In another study that explored Black doctoral students' experiences and barriers to

success at a research intensive PWI, peer interactions were found to be very important to

their doctoral success (Lewis, Ginsberg, Davies & Smith, 2004). While participants

reported that they had strong connections with other students of color, they expressed a

desire for more support from the institution to assist them in extending their network to

the broader university community (i.e., the Office of Equity and Diversity or The Center

for Multicultural Affairs). However, all of these students expressed gratitude for their

informal networks and relied on them for both academic and personal support. Students

also emphasized the importance of establishing this support early in their doctoral

education and considered this informal network to be "family" (Lewis et al., 2004).

Johnson-Bailey et al. (2008) studied the importance of social support from

faculty, students, and the institution in a population of Black graduate students. These

individuals generally reported that they often felt isolated, excluded, and were constantly

in survival mode. They also reported that their experiences were different from White

graduate students who they perceived to experience the campus and environment as more

friendly and positive (Johnson-Bailey et al., 2008). They reported that they received

significantly more support from Black students and faculty than from White students and faculty. They also reported that they experienced more support from White professors than from White students. These students believed that having more Black students in their classes would have made their experience better. Due to the nature of the participants' responses and reflections on social support, the researchers were unable to disentangle the effects of social support from Black students and social support for Black faculty. However, this study is useful in helping us understand some of the mechanisms concerning how Black students are supported at PWIs.

Interactions with Faculty

In environments where ethnic minorities are underrepresented, their access to informal resources and networks as sources of information important for success is often limited. This can present challenges in their abilities to thrive in the graduate school environment and impacts their trajectory towards graduate school completion (Thomas, Willis, & Davis, 2007). Often, for African American students, the ability to be mentored is significantly impacted by the lack of diversity in the faculty leadership (Felder, 2010; Grant & Simmons, 2008; Miller & Stone, 2011; Patton, 2009).

Support from faculty, the second component of social integration, has also been shown to be important in doctoral student persistence. Defour and Hirsch (1990) discussed the benefits of social integration for African American graduate students. In their study, they examined the psychological well-being and academic performance of 89 African American graduate and professional students. Their results supported the hypothesis that there was a relationship between social integration and psychological

well-being and academic performance of Black graduate students. Those students that were better integrated tended to be better adjusted, made better grades, and were less likely to consider leaving the institution prior to completing their degree, than those students that were not as integrated. These findings also supported out-of- classroom interactions with Black faculty. These individuals who were better integrated tended to have better psychological well-being.

The generalizability of these findings is limited. This study sampled from one institution at one point in time, and as such these findings indicate that Black graduate and professional students in this sample benefited, both psychological and academically, from being integrated into the campus in which they are attempting to receive their graduate and professional degrees. Future research should seek to explore these factors across a larger sample of students and at different universities. This study is also over 20 years old and has not been replicated. It would be useful to explore how these results would compare to a replicated study conducted with current graduate students.

Jairam and Kahl (2012) found that doctoral students received social support from faculty members, but there were also instances when they felt they needed more faculty support than was received. Regarding receiving support, these students discussed both emotional and professional support from faculty members, specifically doctoral advisers. These students reported that when advisers were able to provide emotional support, they felt encouraged and were more confident in managing their personal and professional lives (Jairam & Kahl, 2012). For these students, professional support from faculty came in the form of feedback, advice, and problem-focused assistance from the time they

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entered their doctoral program to shortly before they started writing their dissertations. They reported negative interactions with faculty, such as faculty members failing to initiate interpersonal relationships with them as doctoral students. They also identified counterproductive communication and inappropriate behaviors as negative interactions with faculty (Jairam & Kahl, 2012). These findings emphasize the importance of doctoral students having positive supportive informal relationships with faculty members. With this study offering the perspective of individuals who have successfully completed their doctoral degrees, these relationships appear to be integral in the successful advancement of doctoral students.

Guiffrida and Douthit (2010) explored the factors that contribute to academic success of African American college students at PWIs. One of the main factors that was identified were experiences with faculty. There is a large amount of research that supports students' strong relationships with faculty as an integral component to supporting students' matriculation through college. More importantly, Black students need opportunities to form relationships with Black faculty because research has also shown that Black students have a difficult time connecting with White faculty at PWIs (Guiffrida & Douthit, 2010). This finding was similar to the results of Guiffrida (2003), reported earlier, which stated that students' involvement in social organizations afforded them valuable opportunities to participate in out-of-classroom activities with Black faculty.

Felder (2010) explored African American doctoral student experiences at PWIs from a post-graduation perspective. He acknowledged the research of Tinto (1993) as it

relates to the stages of progress for doctoral student degree completion. This author sought to understand the role faculty mentoring and relationships play in supporting students' progress towards degree completion. The findings of this study demonstrated that graduate student success, and completion of their doctoral degrees, was related to mentorship that supported their research focus. Although there was some degree of evidence in support of same-race mentoring, the overall findings concluded that mentors who were supportive of students' research interests and their successful matriculation through their degree program satisfied these students' needs as well.

Johnson-Bailey et al. (2009) also explored the perspectives of African- American graduate students post-graduation and described the importance of mentorship, specifically from Black faculty. The findings of this study suggested that Black graduate students are still negatively impacted by the lack of support from faculty. In fact, they found that students' experiences would have been more positive had they had Black faculty support. Similarly, those that had positive experiences attributed their positive experiences to support from this group. Still, they perceived the environment to have less support and less quality of support than for that of White students. This population of students indicated that they were excluded from after-class discussions and out of class socializing with professors, which they believed would have led to more research and other networking opportunities (Johnson-Bailey et al., 2009).

Although both of these studies provide evidence for mentoring and faculty support for African American graduate students, they only provide the perspectives of students after they have left graduate school. These perspectives are rich in informing the

literature about graduate student experiences; however, there is a need for this type of exploration to be done for students currently enrolled in graduate school as opposed to gathering retrospective data. Post-graduation perspectives could be different from perspectives during the experience, increasing or decreasing in negativity. Each study contained a sample that was drawn from a population specific to one institution. Felder (2010) sampled students over a 10-year span from one private Ivy League institution, while Johnson-Bailey et al. (2009) sampled students over about a 40-year span from one southern PWI. Although their results were supported by previous literature that sampled students across the country, it is important that future research continue to gather data that can be generalizable to other institutions.

The literature included in this section presented several factors that serve as a means to social and academic integration for Black college and university students. These factors included social support from peers and faculty, as well as their intellectual development and experiences of faculty's concern for that development. Some of this research also presented the notion that the lack of academic and social integration negatively impacted their experience (Johnson-Bailey et al., 2009). Another factor that has not been explored in the literature, and that is relevant for this study, is the influence of the undergraduate institution, specifically whether students attended an HBCU or a PWI as an undergraduate. The following section will explore the undergraduate experiences of Black students at both of these types of institutions, with specific emphasis on the differences Black students experience as a result of the campus environment.

HBCU vs. PWI: Undergraduate Education

As has been mentioned, Black students experiences at HBCUs have been found to be quite different from their experiences at PWIs. In fact, there is literature and statistical data that suggest that PWIs do not retain college students at the same rate as HBCUs, and the graduation rates of African American students at HBCUs are higher than those at PWIs (Rodgers & Summers, 2008). These statistics show that the college graduation rate for African American college students at PWIs is disproportionately low in comparison to that of HBCUs. This disparity in retention and conferring of degrees upon African American college students has sparked the interests of several researchers to explore the various factors that impact retention, but the exploration of factors related to mental health is limited.

Brower and Ketterhagen (2004) examined the components that contribute to college student retention and focused on the matching of expectations for college students. These two authors explored the expectations, primarily focused on how they would succeed in college, of Black and White students when they first enter college. They defined expectations as students' abilities to receive and understand messages about how to interact with peers and faculty and progress through the college environment. With this, they proposed that universities also have expectations about how college students succeed and build their curriculum and college environment around students meeting these expectations (Brower & Ketterhagen, 2004). Given the literature previously discussed about integrating into the college environment, this could be considered a way of expressing social and academic integration.

For this study, data were collected from a sample of 1079 college students that fell into three categories: Black students attending an HBCU, White students attending a PWI, and Black students attending a PWI. They found that for Black students attending HBCUs and White students attending PWIs, there was a match in expectations and these students appeared to travel the path of success more easily. On the other hand, Black students attending PWIs experienced a mismatch in their expectations and thus had to work harder to achieve success in college. They also found differences in how these students set academic goals based on their college environments and encouraged advisors and instructors at PWIs to work with African American students around setting goals for themselves that align with their expectations of themselves and the college (Brower & Ketterhagen, 2004). Helping black students at PWIs also included assisting them in developing a network of close friends, and managing their changing relationships with family as they move into a more college-focused identity.

From their findings, Brower and Ketterhagen (2004) concluded that different students have different paths to success in college and therefore need different services. They called for institutions such as PWIs to not just open their doors to diverse students expecting all students' paths to success to be the same, but also to strategically bring diversity into the way the campus operates. They encouraged these institutions to learn from institutions "as different from themselves as possible" and focus on "thoughtful and planful ways to create an integrated, multicultural educational environment" for all students (Brower & Ketterhagen, 2004, p. 114).

This article provides information regarding an area of research that has not been previously explored: a comparison of the match of student and institutional expectations. By collecting data from three different populations, these authors were able to examine their three different hypotheses as well as compare the findings of the different groups. This greatly contributed to the ability to interpret their findings and apply them to the different populations. Despite the limitations of the study, such as the variation in sample sizes of each group, this study provides useful information regarding how students are successful in college. Furthermore, based on their findings, these authors charge institutions to deeply examine their expectations of students to be the same, regardless of race/ethnicity, once they enroll. Brower & Ketterhagen (2004) also presented several questions for certain PWIs to explore and suggestions for helping them diversify their internal structure, such as reaching out to other institutions to understand how they are successfully retaining their Black students, as a starting point.

Literature also suggests that students who choose to attend HBCUs have different characteristics than students who choose to attend PWIs; this, in turn, impacts students' college achievement. Characteristically speaking, HBCUs have typically consisted of African American students that score lower than their White counterparts on standardized tests, have lower GPAs, and come from families of lower socioeconomic statuses than their peers at PWIs (Kim & Conrad, 2006). PWIs also typically have more affluent students and more access to resources. However, HBCUs make up for their lack in resources through their supportive environment and student-faculty relationships, which contribute greatly to students' academic growth and well-being (Kim and Conrad, 2006).

Freeman and Thomas (2002) sought to fill in a gap in literature that specifically focused on the characteristics of African American high school students who choose to attend HBCUs. They conducted a study in which they compared the students that chose to attend HBCUs in the past to students who are currently choosing to attend these institutions. They noted that although past research supports the idea that African American students tend to have lower GPAs and standardized test scores, caution should be used when generalizing these conclusions to infer that these are the same background characteristics all students attending HBCUs have. In comparison to students who attended HBCUs in the 1970s, the profile of students who currently are choosing to attend HBCUs have several common characteristics, but some significant differences as well. For the most part, characteristics of students have been stable over time; however, more academically capable students are currently being attracted to HBCUs and these students' achievements are comparable to those who attend PWIs.

Van Camp, Barden, and Sloan (2010) examined some of the reasons African American students chose to attend HBCUs. In this study, they specifically focused on these students' race-related reasons with the intention of filling in a gap in the literature about the factors that influence Black students' college choice. Data were collected from 109 undergraduate students attending one HBCU. The majority of the sample (82%) was female. Van Camp et al. (2010) posited that this would be an area where Black students would likely differ from White students on college choice. Their findings indicated that Black students' race-related reasons for attending an HBCU were primarily focused on racial centrality, that is having race as a central component to identity, and lack of

intraracial contact growing up, or wanting to be involved in more contact with members of their own race. These choices were also directly related to intentional behaviors that students participated in to develop their racial identity while in college and impacted how students approached their overall college experience (Van Camp et al., 2010). The findings of this study however, have limited generalizability as majority of the sample identified as female.

A factor that continues to be explored as it relates to students' progress through college at HBCUs and PWIs is the campus climate/environment (Fries-Britt & Turner, 2002; Lett & Wright, 2003; Solorzano, Ceja, & Yosso, 2000). This body of research discusses how African American students experience these institutions, the barriers they encounter, and what impacts their ability to integrate into the institution and continue on to graduation. Lett and Wright (2003) explored the psychological barriers that are present for African American students at PWIs. Some of these included feelings of isolation, non-acceptance and rejection. These feelings appear to be common among this population of students (Love, 2009; Patton, Bridges, & Flowers, 2011; Solorzano et al., 2000). The feelings even arise for students that successfully navigate through the environment and survive through to graduation in spite of the barriers (Davis et al., 2004). Lett & Wright (2003) reviewed literature that was related to racial identity development, psychosocial theories related to majority-minority student and adult development, and the Cultural Environment Transitions Model. Based on an analysis of this literature, Lett & Wright (2003) concluded that there is a need for multicultural diversity on predominately White campuses. Graduation does not appear to be achieved

for several African American students at PWIs and therefore, these institutions need to be intentional about creating a campus environment that is inclusive of African American students and can meet their needs through graduation. They charged the Student Affairs offices at PWIs to work towards ensuring that African American students are "psychologically, socially and academically sound" by endorsing multicultural initiatives that are tailored to all ethnic groups (Lett & Wright, 2003, p. 195).

Davis et al. (2004) sought to qualitatively explore the academic experience of Black students at a PWI from the students' perspective. These students were selected based on their successful completion of all degree requirements and preparation to graduate from the institution. It was the researchers' judgment that selecting students at this point in their undergraduate career would minimize any fear of academic retaliation if they should offer negative reports, and that these students would be able to openly discuss their educational experiences.

From the students' interviews, the researchers found five themes that captured their expressed experiences. These were: Unfairness/Sabotage/Condescension (Theme 1), Isolation and Connection (Theme 2), Feeling Different (Theme 3), Having to Prove They Were Worthy to Be There (Theme 4), and Invisibility/Supervisibility (Theme 5). Four of the five themes had been reported in previous studies conducted among other samples. However, Theme 5 had not been researched as much. All five themes were related to the social environment of the institution.

Regarding the individual themes, the Unfairness/Sabotage/Condescension Theme (Theme 1) was related to students' reactions to the insensitive and sometimes racist acts

of Caucasian students, staff and faculty. Participants reported that this type of experience was particularly hurtful. The Isolation and Connection Theme (Theme 2) was related to participants' feelings of isolation when they arrived on campus, and the intricate complexity of managing interpersonal relationships in order to survive at the institution. The Feeling Different Theme (Theme 3) was related to students' experiences with standing out from everyone else, including other Black students, which could potentially limit their ability to be socially integrated into the institution. It was also related to the pleasures of having another Black student in class or, in rare circumstances, having a Black professor (Davis et al., 2004). The Having to Prove They Were Worthy to Be There Theme (Theme 4) was related to students' mistrust of faculty, and their feelings of inadequacy and needing to prove that they deserved to be there. They also felt the need to invalidate negative stereotypes about their ability and participate in behaviors that proved their academic worth, which could serve as a barrier to academic integration. The Invisibility/Supervisibility Theme (Theme 5) was related to students feeling as if they sometimes did not exist within the larger White community, while at the same time feeling that they represented every Black student on campus. The researchers included a discussion around racial identity that they believed could contribute to some of the experiences of their interactions with other White students and faculty as well their experiences with other Black students (Davis et al., 2004). While racial identity appears to be the focus of this study, it is important to note how the themes that became prevalent for these students are related to the students' abilities to form relationships with peers and

faculty (social integration) and students' perceptions of faculty concern and their academic performance and abilities in the environment (academic integration).

One component of the students' stories that stands out was their acknowledgement that although they reported positive experiences at the PWI, there were a plethora of negative experiences that could have contributed to significant levels of stress for more vulnerable students' (i.e., students who may have had less strength or resolve to succeed than some other students; Davis et al., 2004). The researchers concluded that therefore, it is important for institutions to create an environment that supports all African American students. As mentioned earlier, Davis et al. (2004) made suggestions for how this can begin to materialize at PWIs.

One study that sought to empirically examine the retention of African American students at PWIs explored the institutional barriers that contribute to the continually increasing attrition rate for African American students at these institutions (Love, 2009). Noting again, the disproportionate graduation rate of African American students at PWIs when compared to African American students at HBCUs, the purpose of this study was to examine the campus climate, racial stereotypes, and faculty relationships in relation to African American student retention at PWIs. In his study, Love (2009) used these as predictor variables for student retention. He found that there was a positive, significant relationship between campus climate and student retention and a negative, significant relationship between racial stereotypes and student retention. Love (2009) also proposed a model that explored these variables at HBCUs and found that none of the relationships were significant, although campus climate reportedly approached significance. Thus, he

concluded that these findings were consistent with previous research in this area. The findings suggest that African American students find the environment of PWIs unwelcoming, they experience racial stereotypes, and do not receive adequate support from faculty, all of which contribute to inability to thrive and continue on to graduation. Based on these findings, he suggested that institutions intentionally implement initiatives that would create a more inviting and conducive campus environment for all minority students.

While the findings of this study appear to be beneficial, the credibility of this research is difficult to determine. There is a lack of substantial information about the design or data analysis included in the research report. There was no information regarding the population. There was inadequate information concerning the sample or the sampling procedure (e.g., no mention made of data collection procedures). The sample size was small (*N*= 90) and may have been inadequate; however, this could not be accurately judged because no report was made of statistical analyses used. There were tables that included the findings. However, these were not explained and therefore, the reader is left to make assumptions regarding the analyses. The author also failed to explain how he was able to create separate models for HBCUs and PWIs. Therefore, although this study seems to provide useful information (e.g., empirical, quantitative study exploring the differences in HBCUs and PWIs), the lack of explained scientific rigor raises concern.

Solorzano et al. (2000) described the impact of the campus climate on African American experiences in terms of microaggressions. Through a Critical Race Theory

(CRT) lens, they explored racial microaggressions in both academic and social spaces

and how African American students reacted to them within the college environment. Out

of the 10 focus groups that included 34 African American students from three

predominately White Research I institutions, the researchers were able to identify several

themes to describe these students' perceptions of the racial climate at their institutions

(Solorzano et al., 2000), many of which were similar to those found in the study of Davis

et al. (2004) described above. In academic settings, students identified feelings of

invisibility and self-doubt, particularly when faculty appeared to have lower expectations

of them than of their White peers. Students also expressed negative experiences with

their White peers, particularly when their White peers assumed that they (the Black

students) were admitted into the institution because of their minority status. These Black

students also experienced racial microaggressions in social settings on campus. In

contrast to the subtle covert racism experienced within the classroom, students were more

likely to experience overt racism within their social environments (Solorzano et al.,

2000). For example, Black students reported that they were targeted by police in social

settings, and thus were policed more regularly than White students. Additionally, the

Black students reported that they were allowed less flexibility to attend and/or participate

in on-campus events than were White students. These covert and overt forms of racism

seem likely to impact students' abilities to feel integrated into the social systems of the

institutional environment.

The results of these experiences of racial microaggressions led to feelings of

frustration, self-doubt and isolation. These students recounted feelings of being tired,

feeling pushed to leave the institution and reminisced about their friends who were transferring out of PWIs to attend HBCUs (Solorzano et al., 2000). However, they also stated that those students who decided to stay and were able to fight through, found ways to counteract their negative racial experiences by creating spaces both within and outside of the campus community that allowed them to come together and receive support from other African American students and faculty. These spaces included organizations such as Black Greek letter sororities and fraternities, Black Student Unions/ Associations, and student organized study groups (Solorzano et al., 2000). On the other hand, for some students, trying to juggle their involvement with these groups as well as maintain good academic standing was a struggle. Thus, the authors argued, the impact of racial microaggressions on the campus environment of PWIs can be detrimental to students' well-being and academic achievement; however, students do continue to persist toward their educational goals in spite of these challenges (Solorzano et al., 2000).

All of these studies speak to the difficulties that arise for Black college students attending PWIs. The findings of these studies indicate that Black students are not only working to achieve academically, they are also working to overcome barriers that are embedded in the structures of the institutions that continually impact their everyday interactions on the campus. This is in stark contrast to the campus environment of HBCUs, which has been shown repeatedly to provide African American students with support in a way that meets their educational, social, and emotional needs. There is research that suggests that students who attend HBCUs have better outcomes in academic success, relationships with faculty and staff, campus involvement, and peer interactions

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(Fountaine, 2012). In contrast to the experiences of Black students at PWIs experiencing a hostile environment, both Black and White students at HBCUs generally describe experiencing the environment as comfortable and welcoming (Hall & Closson, 2005). People often wonder how students are able to be successful in these environments when HBCUs have so few resources. Many would attribute their successes to the institutions' abilities to eliminate the barriers of negative racial stereotypes and challenges of interacting with White peers and faculty so that students can focus on their academics.

When it comes to research showing whether or not HBCUs are important in preparing students for graduate studies, the findings are inconclusive. However some statistics indicate that HBCUs play an important role. For example, students that attended HBCUs for their undergraduate education go on to make up three-fourths of all African Americans holding doctorate degrees (Knight et al., 2012). While examining the impact of HBCUs, several studies have found that these institutions serve as pathways to success for African American students by providing social networking and social capital opportunities and catering specifically to the needs of African American students, which include but are not limited to support, inclusion, and acceptance, as well as the need for African American role models (Lett & Wright, 2003; Guiffrida, 2005). African American students who attend HBCUs as undergraduate students also have significantly higher self-ratings on measures of confidence and self-esteem, retention rates, and academic aspirations than African American students who attend PWIs (Brower & Ketterhagen, 2004).

The results of some research suggests that HBCUs are graduating students at the same level of preparation as PWIs despite the limited resources at HBCUs and despite the fact that students who attend HBCUs tend to perform worse in high school on average than students who attend PWIs (Kim, 2002; Kim & Conrad, 2006). Kim and Conrad (2006) explored academic success of African American college students attending HBCUs in terms of degree completion. Noting that questions have been raised about the relevance of HBCUs due to the steep drop in Black students' attendance, which was around 90% until the mid-20th century and dropped to 17% by the late 1990s, they couched their study in the context of concerns regarding the value of attending an HBCU over a PWI.

They observed that the research about students that attend HBCUs is limited in enhancing knowledge of students' academic success at HBCUs, in terms of degree completion. One objective of their study was to compare the academic success of African American students at HBCUs to that of African American students at PWIs and determine the institutional factors at HBCUs that may contribute or take away from this success (Kim & Conrad, 2006). They explored several different factors including characteristics of the institution and students, the impact of obtaining a degree at an HBCU versus a PWI, and gender differences for obtaining a degree at these institutions.

In another study, researchers found that there is no difference in level of preparation for future careers between students graduating from HBCUs and students graduating from PWIs (Perna, 2001). The results of this study indicated that when controlling for background demographic characteristics and undergraduate and graduate

experiences, the rates of entry of African American students into faculty careers was

unrelated to earning a Bachelor's degree from an HBCU or from a PWI. However, these

findings also suggest that HBCUs may play a large role in producing African American

faculty members in specific fields, including education and STEM. Still, the research in

this area is limited. A limitation of this study is that it is over 10 years old, and therefore

results may not be as relevant to the current population. As was mentioned earlier, Kim

(2002) also found that there was no significant difference between Black students who

attended HBCUs and Black students who attended PWIs as it relates to their academic

development. This study primarily focused on the institutional effects as it relates to the

students' academic success and did not explore social effects. They acknowledged that

HBCUs are able to support their students with fewer resources than PWIs and speculated

that future research should explore the factors that contribute to this outcome of no

difference in level of preparation for future careers.

While this research is informative in terms of understanding the undergraduate

experience of Black college students, it leaves a gap in the research about the experiences

of Black students in graduate and professional school, and more specifically the

experiences of Black doctoral level students. The population of Black graduate students

has been sorely underrepresented in the literature and thus there is not a lot of

information about matriculation processes and educational outcomes of these students,

nor retention efforts for these students. The following section seeks to present the

research that does exist about Black doctoral students, specifically those at PWIs, as this

is the focus of the present study. While the end of the last section discussed how

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institutions prepare students for graduate school, the question of what happens to them once they arrive is still an area for exploration.

The previous sections have discussed the experiences of Black undergraduate and graduate students at colleges and universities, with emphasis on addressing the differences in social integration and academic integration of Black students at PWIs. As was mentioned, barriers that prohibit or limit integration not only impact academic success and retention, but also appears to impact students' psychological well-being and health (Brower and Ketterhagen, 2004; Torres, Driscoll, & Burrow, 2010). Several of these studies alluded to the potential outcome in their descriptions of feeling isolated, excluded, and inadequate, and the following section will examine that more intentionally. The following literature will consider the variables of depression, anxiety, and stress and how they have been examined and presented in the current research. A consideration of how these indicators present themselves within the Black student population will also be examined in an effort to frame the present study, which seeks to investigate this relationship for Black doctoral students at PWIs.

Depression, Anxiety, and Stress

As the prevalence of mental disorders increase on college campuses, mental health among college and university students has become a popular area of study (Hunt & Eisenberg, 2010). However, there is limited research on depression, anxiety and stress among Black graduate students. Although mental states have been found to be a factor in matriculating to degree completion, it is an area that is sorely under-researched (Eisenberg, Gollust, Golberstein, & Hefner, 2007). Therefore, the following section will

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include relevant literature that details how depression, anxiety, and stress become psychological barriers to academic success in the college and university setting and populations. Those studies that do exist concerning Black graduate students will also be detailed. Since depression, anxiety, and stress are often intercorrelated, many studies address all three variables rather than study them in isolation (Bayram & Bilgel, 2008; Gilmore, Osho, & Heads, 2013). Specific to the Black population, stress and depression are often examined as a result or predictor of the other (Williams & Williams-Morris, 2000; Brown et al., 2000). There are also several race-related factors that have been explored when considering the mental states of Black students, which will be presented here (e.g., Torres et al., 2010; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003).

One example of this research, attempting to fill in these gaps, is a study conducted by Eisenberg et al. (2007), who quantitatively explored depression, anxiety, and suicidality among university students, including both undergraduate and graduate students. They noted that the type of research they were pursuing, utilizing clinically validated instruments and adjusting for a nonresponse bias extensively, had not been conducted in 30 years. Assessing for depression, anxiety, and suicidality, they utilized a web-based survey to gather data from students at a large public highly competitive, research intensive, Midwestern university. Their sample was reported to have similar demographics to the national population in terms of gender and racial/ethnic factors. It included 2, 495 undergraduate students and 2, 526 graduate and professional students. They reported that they intentionally oversampled their graduate and professional students, noting that there is even more limited research in this area for this population.

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These researchers utilized the PHQ-9 to categorize students for depressive and anxiety disorders. They also utilized questions from the National Comorbidity Survey Replication in order to assess for suicidality. Based on their gathered data, they found several significant results. One of particular interest to the current study was the only statistically significant difference in completion rate was found between racial/ethnic groups. Specifically, Black students had a lower survey completion rate than the other broad categories of White, Hispanic, and Asian. They further reported that 15.6% of undergraduates and 13.0% of graduate students endorsed symptoms that would indicate a depression or anxiety disorder, with females have a higher prevalence for both. Suicidal thoughts were also reported for both graduate and undergraduate students, 1.6% and 2.5% respectively. Based on a multivariate logistic regression, demographics that would suggest marginalized groups significantly predicted current mental health problems. Specifically, they found that females, students from lower SES groups, students who identified with a racial or sexual minority status reported more depression, anxiety, and stress.

Eisenberg et al. (2007) noted that students who come from lower SES backgrounds reported more mental health problems. They posited that there is a need to explore these students further and develop ways to understand their mental health needs in order to ensure a successful college experience. However, these researches specifically cited that the students' social support, (i.e., living on campus or being married or in a domestic partnership), became a buffer to mental health concerns,

suggesting that the impact of social support is potentially significant in reducing depression, anxiety, and stress for university students.

While this study provides useful information about how to manage depression, anxiety, and stress in a university setting and fills in a gap in the literature, it is not without its limitations. The findings of this study seemed promising, but the majority of the discussion section was spent discussing limitations of the study and not interpretations of the findings. The readers are left curious about how their findings were interpreted and tied back to previous literature. This study also included a sample that, although was reported to be demographically comparable to the national population, included one institution and thus had limited generalizability. However, the statistical rigor of this study and the much-needed exploration of this area are worth noting.

As a follow up to this study, and possibly as an expansion to include a broader range of students as opposed to one single institution, Eisenberg, Hunt, and Speer (2013) also sought to explore impediments to the mental health of college students. This study included random samples from 26 different universities nationwide, which were diverse on several factors including enrollment, racial/ethnic composition, Carnegie classification, etc. In total, the sample included 14, 175 students, including both graduate (26%) and undergraduate students (74%). As in the previous study, they utilized PHQ-9 measures to assess for depression and anxiety, as well as questions from the National Comorbidity Survey Replication to assess for suicidality. They also included two questions to assess for functional impairment.

The results indicated that 17.3% and 9.8% of the sample screened positive for depression and anxiety respectively; 6.3% endorsed suicidal thoughts, while 1.6% noted a plan, and .6% reported an attempt. Overall, 32% of the student population endorsed at least one of these mental health concerns. In terms of impairment, majority of the students, 55% reported mental health problems causing impairment in their academic abilities at least one day the previous month. These findings were comparable to the previous study in finding that women had a higher prevalence of these concerns than men (Eisenberg et al., 2007). They also found that while minority students varied on their levels of anxiety and non-suicidal self-injurious (NSSI) behaviors when compared to white students, they all reported significantly higher scores of depression than their White counterparts, also similar to the Eisenberg et al. (2007) findings. Even students who indicated multiple or other racial/ethnic categories indicated higher depression. One important finding to note was that Black students were the only minority group who did not endorse higher impairment due to mental health problems related to White students.

The findings of this study suggest that mental health problems are relevant among college and university students. While many of their findings were supported by previous literature, particularly as it relates to the prevalence of mental disorders on campus and differences by sex, this research presents findings that highlight gaps in the literature based on differences in race/ethnicity. Of particular interest to this study is the finding that minority groups in general, and particularly Black students, endorsed higher levels of depression and anxiety, with the exception of Asian students demonstrating a lower levels of anxiety. Black students in this study also displayed higher levels of

suicidal thoughts, but lower reports of NSSI. Eisenberg et al. (2013) called for future

research to explore how mental health problems can be a factor in persistence for

minority college students given their earlier findings about the relationship between

depression and persistence (Eisenberg, Golberstein, & Hunt, 2009).

The findings of these two studies represent the research of a particular research

team, which could potentially include researcher biases. However, it provides useful

information in considering how mental health problems are presenting themselves in the

university settings, and specifically draws attention to the prevalence, often under-

researched, in different racial/ethnic groups. While the Eisenberg et al. (2013) study was

an attempt to further expand the research to a larger more representative sample, it still

remains limited in its ability to acquire a large, broad enough sample to generalize as

representative of the national population of college students. Of particular interest would

be whether this sample includes institutions that were race-specific or single sex

institutions.

Hyun, Quinn, Madon, & Lustig (2006) conducted a study that assessed graduate

students needs in terms of mental health services. In their study, they sought to

emphasize the needs of graduate students, and generalize their findings to a broader

population of graduate students as opposed to specific populations (e.g., medical

students, Dahlin, Joneborg, & Runeson, 2005; or psychology students, El-Ghoroury,

Galper, Sawaqdeh, & Bufka, 2012). They found that the needs among graduate students,

in general, are high. In their study, almost half (46%) of graduate students had stress-

related problems that affected their well-being and academic performance. These stress-

related problems resulted in feelings of depression and higher frequency of other negative emotions including feeling exhausted and/or overwhelmed frequently or most of the time. For African American students specifically, race-related barriers provided another source of stress leading to more negative mental health outcomes. They also found a higher prevalence of mental illness among female graduate students.

As mentioned above, there has been research conducted with specific populations of doctoral students assessing their mental health outcomes (Dahlin et al., 2005; El-Ghoroury et al., 2012). Dahlin et al. (2005) found that medical students experienced depression at rates higher than the general population (12.9%). They also had results that indicated that women tended to experience stress and depression at higher rates than the men in the program. Similar findings existed for the study of graduate students in clinical psychology, specifically as it relates to more women reporting stress regarding scholastic work (El-Ghoroury et al., 2012). Stress scores were also highest for dissertation work and financial situations. They hypothesized that more academically successful students would report less stress, but found that although women were more academically successful, their levels of stress were actually found to be higher. In line with the findings of the studies above, these studies also conclude that doctoral students in general experience more stress and depression than the general population and specifically higher stress and depression in regards to women when comparing them to men.

Depression, Anxiety, and Stress for Black college and university students. As several of the previous studies mentioned, the prevalence of depression, anxiety, and stress appear to be significantly higher for minority students in general, and more

specifically for Black students (Eisenberg et al., 2007; Eisenberg et al., 2013; Hyun et al., 2006). Racial dynamics also play an important role and impact these students' psychological functioning. Therefore, the following literature presents the limited research on this topic area as it relates to challenges to Black college students' mental health at PWIs with attempts to specifically focus on the relevant research about Black graduate and doctoral students' mental health at PWIs.

Wei, Ku, and Liao (2011) sought to explore the relationship between stress and persistence for minority college students on predominately White campuses. In their study, they included three minority groups of students: African American, Asian American, and Latino/a. They observed that minority groups of students are likely to share common experiences on college campuses. Their sample consisted of 53 African American, 54 Asian American, and 53 Latina/o participants. Their sample also had 46% male and 54% female participatns. Wei et al. (2011) found that university environment served as a mediating variable between stress and persistence. In other words, the more positively students perceived the university environment, the more likely they were to persist. This is particularly relevant for African American students, which highlights the need of the current study, which explores Black students perceptions of experiences at PWIs. African Americans in this sample were also more likely than the other two groups to report greater minority stress (Wei et al., 2011). These researchers also emphasized the importance of institutions increasing their diversity in terms of faculty and students, in order to support minority students in general, and Black students in particular.

In order to paint a broader picture of challenges to mental health for Black individuals, Williams and Williams-Morris (2000) is included here with a discussion on racism and mental health. In their paper, they presented the idea that institutional dimensions of racism and socioeconomic factors are important factors when considering mental health outcomes. They also posited that the harmful stereotypes associated with Black populations including the stigma of inferiority result in significant mental health consequences. While Williams and Williams- Morris (2000) only conducted a review of the relevant literature, they also suggested areas for future research to include exploring the effects of these various factors mentioned above and how it impacts health and specifically mental health consequences. This review and resulting suggestions appear to be in line with the experiences Black students are feeling at PWIs.

Torres et al. (2010) conducted a longitudinal study exploring the impact of race and racism on African American graduate students at PWIs. Through a mixed method analysis, they found that microaggressions are a valid predictor of mental health outcomes in this population. From their qualitative analyses, the concept of race-related barriers emerged. These findings were specifically related to microaggressions in the form of assumptions of criminality, being treated like a second-class citizen, underestimations of personal ability, and cultural/racial isolation. Quantitative analyses supported these findings and indicated that racial microaggressions play contribute significantly to perceived stress. The authors concluded that the perception of racial discrimination leads to an increased level of overall stress, which in turn can lead to an increase in depressive symptoms among Black college students. This finding was similar

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to that of Sellers et al. (2003) who found that racial centrality (i.e. meaning that race is a central factor in their life), in terms of racial identity development, was significantly related to psychological distress. Thus, the more students identify with their racial identity, the more likely they are to be attuned to racial discrimination and, as such, perceptive to stress.

In a study specifically focusing on Black women in academic settings, findings suggested that Black undergraduate and graduate women, and Black women faculty, experience high levels of stress in the academic environment (Gilmore et al., 2013). They also noted the strong correlational relationships between stress, anxiety, and depression. Within this population of Black women, their perceived level of stress also moderated the relationship between their anxiety and depression. The authors also explored how coping strategies impact this stress and noted that poor coping strategies for managing stress tended to result in higher levels of depression and anxiety (Gilmore et al., 2013).

Similarly, Uqdah, Tyler, and Deloach (2009) sought to quantitatively explore the various psychological factors that impact Black graduate students in Psychology. They found that academic self-concept was significantly negatively related to depression, but not anxiety. They also found that scores on perceptions of competence was significantly negatively related to depression and anxiety. Both support the aforementioned notion that academic and intellectual development might be a factor in predicting mental health outcomes for Black doctoral students. This study has limited generalizability to Black male graduate students because the sample was predominately female (85%); however,

the study does offer some useful information for considering the mental health outcomes and how these outcomes are potentially related to academic integration.

The literature above (e.g. Eisenberg et al., 2007; Eisenberg et al., 2013; Hyun et al., 2006) displays a brief overview of the relevant research as it relates to mental health on college campuses in general, and specifically to Black students (Torres et al., 2010; Sellers et al., 2003). While these studies present a case for studying the mental health outcomes for these students, the amount of current research is quite limited. Several of these studies stressed the importance of social support in addressing some of these mental health concerns. Various coping strategies were also salient in decreasing symptoms of depression, anxiety, and stress. Mental health services seem to be significantly underutilized amongst the graduate student population (Hyun et al., 2006). Therefore, a strong relationship with faculty advisors and involvement in social support systems help graduate students from the general population overcome their distress. For African American graduate students in particular, who are less likely to utilize mental health services and are in a less culturally diverse environment (e.g., PWIs), social support is integral to reducing psychological distress (Hyun et al., 2006; Torres et al., 2010).

Black Graduate Student Experience at PWIs

Several studies have explored the experiences of Black students in graduate education at PWIs. However, very few (e.g., Anderson & Hrabowski, 1977; Joseph, 2012), including the following study, have explored the impact of undergraduate institution, specifically on attending HBCUs for undergraduate education, on graduate education at PWIs. Anderson and Hrabowski (1977) found that Black students who

attended an HBCU for undergraduate education were equally successful in Master's and Doctoral programs as Black students who attended HCWUs. However, this study is several decades old, and there is a need to understand whether or not these findings still apply. Researchers have suggested that models of persistence are different for Black doctoral students and to this end have engaged in research to explore what factors should be include in a model for this population. The following study is unique in the exploration of undergraduate institutions and sets the foundation for discussing these experiences in the current study.

Joseph (2012) conducted a study that examined how the first two years of graduate school following undergraduate education at an HBCU impacted the likelihood of students' departure from doctoral studies. This study included 6 Black women in their first two years of doctoral studies in the STEM field. They were interviewed about their experiences of the different cultures of HBCUs and PWIs and their transition to a PWI for graduate school. Students first described their experiences at HBCUs as being a part of a family, having a sense of belonging, and being prepared to actively pursue other opportunities as a result of the undergraduate experiences. On the other hand, they described their experiences at PWIs as daunting, cordial, and not doing anything that made them want to stay. These students also described their relationships with faculty at HBCUs as a positive determining factor in their success. Specifically, they reported the significance of faculty's encouragement to attend graduate school and "opened doors for them that they could not have imagined" (Joseph, 2012, p. 130). However, students generally expressed that their interactions with faculty at the PWIs further perpetuated the

message that they did not belong. These women also described their interactions with peers as ambivalent and stated that they had limited interactions with individuals who shared similar values and outlooks on life. The doctoral students in this study also expressed that their academics were a challenge and were greatly impacted by the faculty's perceptions of their abilities. They noted their own personal perceptions of being behind and not grasping the work (Joseph, 2012). The researchers also noted that inaccessibility and negative relationships could contribute to low self-esteem in students.

The women in this study were unable to separate their undergraduate experiences from their current graduate experiences. Several of them drew upon the lessons they learned during their undergraduate matriculation as a source of motivation and resiliency to persist. Although they experienced culture shock in their transition to graduate school, were exposed to isolation, and developed doubt in their academic abilities, they were able to reflect upon their undergraduate experience to strengthen their sense of self and thus gather the strength to continue on (Joseph, 2012). Lack of integration, both socially and academically, can play a large determining role in whether students of color choose to persist at PWIs for graduate education.

There are several limitations that must be acknowledged when considering the results of this study. First the study consists only of 6 doctoral students and all were female. Due to the qualitative nature of this study and the small sample sizes, several of the responses were representative of only one student in the study, and thus the reported responses may not be representative of even the few participants in the sample. Even with these limitations, this study gives some insight into how these particular Black

female doctoral students experience graduate studies at PWIs after they had graduated from HBCUs. This study also adds to the literature about transitioning from HBCUs to PWIs. In the present study, I sought to address several of these limitations by conducting a quantitative analysis examining whether attending either HBCUs or PWIs as undergraduates was significantly associated with social and academic integration, as well as with depression, stress, and anxiety for Black doctoral students at PWIs.

Gildersleeve, Croom & Vasquez (2011) explored the culture of doctoral education and the social narratives that are projected onto Black and Latino/a students in doctoral programs. In this study, 22 Black and Latino(a) students enrolled in comprehensive doctoral institutions with very high research activity participated. During the analyses of initial interviews, researchers noticed a recurring salient phrase, "going crazy" across students' responses. They decided to further explore what this phrase meant to the students and how it impacted students' experiences of doctoral programs. In order to form a certain level of objectivity, the researchers first defined the "Am I Going Crazy" narrative as the "tentativeness, insecurity, and doubt that can be projected onto students of color" and "the active engagement with struggle and resiliency required by students of color" (Gildersleeve et al., 2011, p. 100).

They then reanalyzed the data in order to ascertain what themes participants identified at the institutional level (across the institution, and not just limited to the doctoral program and its faculty). The themes that they identified in these data included socialization into graduate school, specifically focusing on the role that faculty, advisors, and supervisors play in the socialization process of doctoral students. Another theme was

racial aggressions, both micro- and macroaggressions, that included but were not limited to intentional and unintentional, covert and overt race- based assaults towards Black and Latino/a students (in this instance, specifically related to higher education settings; Gildersleeve et al., 2011, p. 102). In these narratives, they also found evidence that socialization processes and racial aggressions impacted Black and Latino/a students' progression through doctoral programs. These consequences included self-censorship, questioning of ability or worth, adopting the rules and norms, and stifling scholarly endeavors. One consequence that evolved as a means of supporting these students matriculation was engaging in peer support networks where they could develop a sense of community and affirm one another's experiences.

As a result of the analysis of these narratives, Gildersleeve et al. (2011) encouraged institutions of higher education to reimagine doctoral education for Black and Latino/a students. They urged these institutions to engage in a self-analysis of the problems presented in this article, particularly as it relates to the undue burden on these students who carry these narratives through their doctoral matriculation. They ended their analyses with an exploration of the longstanding injustices that Black and Latino/a students have experienced throughout their participation in doctoral education and charged institutions with the task of creating environments that are socially just for these students and that do not require all support efforts to be student initiated (Gildersleeve et al., 2011). Again, this study presents themes related to the inability of minority students, including Black students, to social and academically integrate and the impact on mental states.

Gasman et al. (2008) conducted a study that explored experiences of African American graduate students at an Ivy-League institution. Due to the large number of African American students who have historically obtained graduate degrees in education, these researchers chose to focus specifically on Master's and Doctoral students in Education. 67 students were identified and eligible to complete this survey. They found that relationships with faculty members significantly impacted their socialization process and opportunities as well as their overall satisfaction with their graduate program. They also found that social integration including peer interactions and social networks and peer support outside of the institution played a large factor in students' desire and ability to participate in academic life at the institution. Lack of financial support, which impacted students' abilities to present at conferences and engage in professional opportunities, also impacted students' persistence and success. Students also desired to see representation of minority perspectives in the curriculum and implemented into the academic environment of classrooms and teaching. They also desired more socialization opportunities to understand the process of transitioning from graduate school to professional arenas. These researchers noted that challenges exist in making these changes and acknowledge that there is a certain amount of time that it takes to implement these recommendations. However, similar to Gildersleeve et al. (2011), they urged institutions to implement institution-wide efforts to improving academic and social experiences of their African American graduate students.

Summary

Tinto (1975, 1993) proposed a theory of retention that included academic and social integration for both undergraduate and graduate students. While Tinto (1993) noted that there were differences in persistence for different groups including women and minorities, he did not expound upon how to include them in the model. As such, several researchers have expanded upon his theory, critiqued it, and sought to improve it. For example, Pascerella and Terenzini (1980) sought to further explicate his theory in the areas of academic and social integration, and in fact developed a measure to predict academic and social integration. The factors included in their measure were academic and intellectual development, faculty concern for academic and intellectual development, peer interactions and informal interactions with faculty.

To further explore the efficacy of Tinto's theory, Terenzini, Yaeger, Bohr, Pascerella, & Amaury (1997) sought to understand the college experiences of Black undergraduates at HBCUs and PWIs. This is one of many studies that considers the learning outcomes and social experiences of Black undergraduate students at these two different types of institutions of higher education. In support of the theory, Terenzini et al. (1997) found that campus climate, ability to make relationships with peers and faculty, and racial dynamics are all factors that play a role in the matriculation of Black college students. These factors were found to impact graduate education for Black students as well (Palmer et al., 2012).

A review of the literature yielded few studies that focused specifically on factors that affect Black doctoral students' persistence and challenges to their mental health outcomes. Furthermore, the exploration of whether or not undergraduate institutions play

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a role in that is of great need. Based on the literature review across varied graduate settings, multiple factors were considered in this study to examine relationships among variables that are thought to be related to mental health outcomes for Black doctoral students. Upon examination of previous literature, it can be concluded that African American students have different experiences at PWIs than they do at HBCUs. Many of these differences could be explained by the ability to be both academically and socially engaged at each institution. Many of these studies speak to the barriers including campus climate, overt and covert racism, and lack of mentorship, that I would argue impact Black students abilities to socially and academically integrate into the environment. However, there is a limited amount of research in this area. Several studies have explored the graduate education of students of color at PWIs (e.g., Flynn, Sanchez, & Harper, 2011; Lundy-Wagner, Vultaggio, & Gasman, 2013; Maton et al. 2011; Thomas et al., 2007), but few have specifically examined Black students' experiences (e.g., Felder, 2010; Gasman et al., 2008; Hunn, 2008; Johnson-Bailey et al., 2009).

The theory of social and academic integration is another area that is limited in exploring the graduate student population in general and more specifically, Black student populations. The majority of the research presented in this literature review was based on undergraduate student experiences, which makes sense as it is a model of college student retention. However, with the suggestion that the same concepts could be applied to a model of doctoral persistence, it seems useful to explore the concepts of academic and social integration with a population of doctoral students. Therefore, this study seeks to fill in that gap.

Social and academic integration were identified as two factors that could potentially contribute to Black doctoral students' persistence and levels of depression, anxiety, and stress. The research presented here has focused mostly on academic outcomes such as retention and satisfaction, but none have considered how academic and social integration impact mental health. Majority of this research was also qualitative in design. Mental health outcomes and challenges to mental health are areas of research that have not been consistently explored for doctoral students generally, and Black doctoral students specifically. While it has been observed that there are certain barriers and challenges that are experienced by Black doctoral students, the research in this area is limited. This is also true for the literature that has been devoted to their mental health or lack thereof. Furthermore, there is a gap in the literature that focuses on the impact that undergraduate institutions play in these students' doctoral studies. With the profound historical component of denied access to higher education for Black students, exploring how these different institutions play a role in achieving doctoral degrees today is an important factor to be considered. The following research study was designed in an effort to fill in the gap in literature about the relationships between undergraduate institutions, academic and social integration, and challenges to mental health for Black doctoral students in doctoral studies at PWIs.

Purpose of the Study

Given the potential importance of levels of social and academic integration on mental health and academic outcomes among Black graduate students, and the sparse literature in this area; and given the equally sparse literature in examining differences

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between students who attend HBCUs and those who attend PWIs as undergraduates in relationship to the variables in question, this study was designed to investigate these relationships and the specific experiences of Black doctoral students. The purpose of this study is to quantitatively examine and explore (a) the relationships between Academic Integration and Social Integration and Depression, Anxiety, and Stress for Black doctoral students (b) the factors that contribute to differences in Academic Integration and Social Integration and Depression, Anxiety, and Stress and (c) whether types of undergraduate institutions impact Academic Integration and Social Integration, and Depression, Anxiety, and Stress.

Research Questions

1. Is there a relationship between Academic Integration (as measured by Faculty Concern for Student Development and Teaching and Academic and Intellectual Development) and Social Integration (as measured by Peer-Group Interactions and Interactions with Faculty) and Depression, Anxiety, and Stress for Black doctoral students at PWIs?

2. Does Academic Integration (as measured by Faculty Concern for Student Development and Teaching and Academic and Intellectual Development) and Social Integration (as measured by Peer-Group Interactions and Interactions with Faculty) predict Depression, Anxiety, and Stress for Black doctoral Students at PWIs?

3. Are there differences in Academic Integration, Social Integration, Depression, Anxiety, and Stress for Black doctoral students at PWIs as a function of types

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of undergraduate institution, age, gender, year in program, and degree program?

Hypotheses

I. There would be significant relationships between academic integration (as measured by Faculty Concern for Student Development and Teaching and Academic and Intellectual Development) and Social Integration (as measured by Peer-Group Interactions and Interactions with Faculty) and Depression, Anxiety, and Stress for Black doctoral students at PWIs.

II. Academic Integration (as measured by Faculty Concern for Student Development and Teaching and Academic/ Intellectual Development) and Social integration (as measured by Peer-Group Interactions and Interactions with Faculty) would be significant predictors of Depression, Anxiety, and Stress for Black doctoral students at PWIs.

III. There would be a significant difference in Depression, Anxiety, Stress, Academic Integration and Social Integration as a function of types of undergraduate institution, age, gender, year in program, and degree program.

<center>**Chapter III**</center>

<center>**METHOD**</center>

Participants

Descriptive statistics of the demographics of this sample can be viewed in Tables

1-3. The participants in this study included 140 Black/African-American students

currently enrolled in doctoral programs at Predominately White Institutions (PWIs). Of

these students, 24% ($n = 33$) attended a Historically Black College or University (HBCU)

for their undergraduate studies, while the other 76% ($n = 107$) attended a Predominately

White Institution for their undergraduate studies. Although about 90% of Black graduate

students attended PWIs (US Department of Education, 2011), I oversampled in order to

obtain a somewhat more balanced representation of students from each type of

institution.

The ages of these student participants ranged from 22-57 ($M=29$, $SD=6$ years). In

this sample, 26.4% ($n = 37$) of the participants identified as male, while the other 72.1%

($n = 101$) identified as female, and 1.4% ($n = 2$) identified as other. This gender

difference is not surprising given that in Fall of 2006, Black women accounted for 72.6 %

of graduate school enrollments for this population (Anonymous, 2007/2008).

Participants in this study were enrolled in doctoral programs in a variety of disciplines

including Humanities (i.e., History and Philosophy; 11%), Social Sciences (e.g.,

Psychology and Sociology; 33%), Natural Sciences (e.g., Biology and Chemistry; 15%),

Formal Sciences (e.g., Statistics and Mathematics; 3%) and Applied Sciences (e.g., Law

and Education; 37%). As displayed in Table 1, students were also fairly evenly

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distributed across year in the program. Respondents were enrolled at institutions located

in Midwestern, Eastern, and Southern states.

Table 1

Frequency of Year in Program

Year in Program	*N*	Percent
First Year	23	16.4%
Second Year	21	15.0%
Third Year	24	17.1%
Fourth Year	31	22.1%
Fifth Year	24	17.1%
Sixth Year or More	17	12.1%
Total	140	100%

Table 2

Frequency of Degree Program

Degree Program	*N*	Percent
Humanities	16	11.4%
Social Sciences	46	32.9%
Natural Sciences	21	15.0%
Formal Sciences	4	2.9%
Applied Sciences	52	37.1%
Total	139	99.3%

Table 3

Frequency of Age

Age	*N*	Percentage
21	1	.7
22	7	5.0
23	7	5.0
24	6	4.3
25	14	10.0
26	13	9.3
27	22	15.7
28	11	7.9
29	11	7.9
30	6	4.3
31	6	4.3
32	5	3.6
33	2	1.4
34	4	2.9
35	2	1.4
36	3	2.1
37	4	2.9
38	1	1.4
39	3	2.1

40	2	1.4
41	1	.7
43	1	.7
44	1	.7
45	2	1.4
50	1	.7
57	1	.7
Total	137	97.9

Procedures

As stated in Chapter I, PWIs in this study were operationally defined as institutions in which the majority of the student population has been and continues to be White. In order to secure a more homogenous sample of students from PWIs, students were sampled from "Very High Research Activity Schools" (Carnegie Foundation, 2010). In terms of campus climate and school culture, PWIs are less similar to HBCUs, have a culture of high academic achievement, and have been reported to have less overall support for students of color. I chose these universities by examining documents pertaining to college and university categorization, including the Committee on Institutional Cooperation (CIC; 2014), and the Carnegie Foundation (2010). The obtained sample was broad, and included Black graduate students from the University of Chicago, the University of Illinois-Urbana Champaign, Indiana University, the University of Iowa, the University of Michigan, Michigan State University, the University of Minnesota, the University of Nebraska-Lincoln, Northwestern University, the Ohio State University, Pennsylvania State University, Purdue University, the University of Wisconsin-Madison, the University of Maryland, Rutgers University, and Duke University, many of which are located in the Midwestern Region of the United States. Table 4 includes institutional data for the 16 targeted institutions (Carnegie Classification 2010; US Department of Education, 2011). Table 5 includes institutional data for the top 16 ranking HBCUs, according to News World and Report (Historically Black Colleges, 2014).

Table 4

Institutional Data for Targeted PWIs

Institution	Location	Total Enrollment	% White Students	% Black Students	% Grad and Prof per FTE	Public vs. Private
University of Chicago	Chicago, IL	15,245	45.7%	4.5%	61.2%	Private
University of Illinois-Urbana Champaign	Champaign, IL	44,520	55.8%	5.5%	25.3%	Public
Indiana University	Bloomington, IN	42,133	73.8%	4.2%	19.4%	Public
University of Iowa	Iowa City, IA	30,129	73.9%	2.5%	26.2%	Public
University of Michigan	Ann Arbor, MI	43,426	64.6%	4.4%	35.7%	Public
Michigan State University	East Lansing, MI	48,783	70.8%	6.7%	20.7%	Public
University of Minnesota	Minneapolis, MN	51,853	69.9%	3.7%	30.6%	Public
University of Nebraska- Lincoln	Lincoln, NE	24,207	81.3%	2.2%	16.9%	Public
Northwestern University	Evanston, IL	21,215	54.9%	5.5%	50.3%	Private
Ohio State University	Columbus, OH	56,387	73.7%	6.3%	21.8%	Public
Pennsylvania State University	University Park, PA	45,783	73.2%	4.3%	13.7%	Public
Purdue University	West Lafayette, IN	40,393	68.4%	3.3%	18.3%	Public
University of Wisconsin-Madison	Madison, WI	41,654	76.8%	2.2%	27.3%	Public
Rutgers University	New Brunswick, NJ	40, 434	46.7%	7.5%	17.2%	Public
Duke University	Durham, NC	15,386	46.9%	9.9%	53.8%	Private

Note. Grad and Prof = Graduate and Professional Students; FTE = Full Time Equivalent.

Table 5

Institutional Data for Top 10 Ranking HBCUs

Institution	Location	Total Enrollment	% Black Students	% White Students	% Grad and Prof per FTE	Public vs. Private
Spelman College	Atlanta, GA	2,145	82.2%	--	--	Private
Morehouse College	Atlanta, GA	2,374	96%	0.2%	--	Private
Howard University	Washington, DC	10,002	92.7%	1.1%	30.3%	Private
Fisk University	Nashville, TN	620	82.6%	1.2%	6.2%	Private
Tuskegee University	Tuskegee, AL	3,117	81.3%	0.1%	15.3%	Private
Xavier University of Louisiana	New Orleans, LA	3,178	78.5%	3.3%	19.7%	Private
Claflin University	Orangeburg, SC	1,946	92.4%	1.4%	3.8%	Private
North Carolina A&T University	Greensboro, NC	10,636	85.5%	4.5%	11.6%	Public
Clark Atlanta University	Atlanta, GA	3,419	90.2%	0.1%	12.4%	Private
Delaware State University	Dover, DE	4,324	72.3%	13.1%	9.9%	Public
Florida A&M University	Tallahassee, FL	12,057	93.8%	3.2%	16.0%	Public
Dillard University	New Orleans, LA	1,307	93.4%	0.4%	--	Private
North Carolina Central University	Durham, NC	8,604	83.7%	5.3%	22.2%	Public
Johnson C. Smith University	Charlotte, NC	1,669	73.8%	0.5%	--	Private
Tennessee State University	Nashville, TN	8,740	76.2%	17.7&	16.4%	Public
Tougaloo College	Tougaloo, MS	972	96.8%	1.0%	--	Private

Note. Grad and Prof = Graduate and Professional Students; FTE = Full Time Equivalent

Participants were solicited via email and Facebook. Email requests were sent to listserv owners of various organizations that were most likely to have Black graduate students as listserv members (e.g., Black Graduate and Professional Student Associations) at these respective universities, and once permission to post was obtained, recruitment e-mails were posted. Descriptions of the study were also posted to four Facebook accounts: (a) Black Graduate and Professional Students at the University of Wisconsin-Madison, (b) Black Graduate and Professional Student at the University of Ohio, (c) Black Psychology PhD Students Facebook Page, and (d) the Black PhD Facebook Page.

The recruitment e-mail contained 3 parts. The first part was an introduction of the primary investigator and a description of the research. The second part was a link to the survey itself. The third part was a statement that they would have the opportunity to be entered into a raffle at the end of the study to win one of 20, $100.00 gift cards. Funds for this incentive were provided by dissertation research awards from the Women's Philanthropic Leadership Circle and The Office of Equity and Diversity SEED Award. Please see a copy of the recruitment e-mail in Appendix A. The Facebook posting was identical to the recruitment email. A copy of it can be found in Appendix B.

The survey was developed using Qualtrics Software (version 37, 892). The survey consisted of 3 parts. The first part was a statement of informed consent, which in this case was passive consent (i.e., participants agreed that they had been fully informed of the parameters, benefits, and ethics of participating in the study and that they consented to participate in the study by actually participating in the study). The informed consent can

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be viewed in Appendix C. The second part was the Demographic Form, which can be viewed in Appendix D. The third part was the four instruments used in this study (the Institutional Integration Scale (Pascarella & Terenzini, 1980), the Depression Anxiety Stress Scale (DASS; S.H. Lovibond & Lovibond, 1995), the College Academic Self-Efficacy Scale (CASES; Owen & Froman, 1988), and the Scale of Perceived Social Self-Efficacy Scale (PSSE; Smith & Betz, 2000). The DASS will be included in Appendix E; however, since the other instruments are copyrighted by the authors and publishers, copies of them will not be included in the appendices of this dissertation.

Using Parts 2 and 3 of the survey, de-identified data were collected and stored in an excel spreadsheet, which was then analyzed using SPSS software (version 22). The fourth part of the survey was a link that took participants to an html page where they could register for the drawing by entering their name and e-mail address. Names and e-mail addresses were collected in this manner so that there would be no link between the actual surveys, and the entry for the drawing. Once the data were collected and the drawing held, these names and e-mail addresses were destroyed.

Instrumentation

There were five measures included in this study. These were a demographic form, the Institutional Integration Scale (Pascarella & Terenzini, 1980), the Depression Anxiety Stress Scale (DASS; S.H. Lovibond & Lovibond, 1995), the College Academic Self-Efficacy Scale (CASES; Owen & Froman, 1988), and the Scale of Perceived Social Self- Efficacy Scale (PSSE; Smith & Betz, 2000).

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The Demographic Form was used to collect data about participants' graduate and undergraduate experiences. Concerning participants' graduate experiences, data were collected about participants' age, gender, race, current graduate institutions, year in their doctoral programs, types of degree being sought, fields of study, and confidence that their doctoral degree would be obtained in a timely manner. Concerning their undergraduate experiences, data were collected about whether their undergraduate institutions were HBCU or PWI, name of their undergraduate institutions, and type of undergraduate degrees obtained.

Institutional Integration Scale (Pascarella & Terenzini, 1980) was developed to measure academic and social integration as conceptualized by Tinto (1975). These scales were validated within a sample of college freshman. This instrument is comprised of 4 subscales, two of which measure academic integration and two of which measure social integration. Academic and Intellectual Development (7 items) and Faculty Concern for Student Development and Teaching (5 items) measured different components of academic integration. Peer-Group Interactions (7 items) and Interactions with Faculty (5 items) measured different components of social integration. Each item for the four subscales was measured on a 5-point Likert scale ranging from strongly agree = 5 to strongly disagree = 1. Alpha reliabilities for these subscales were reported as .74, .82, .84, and .83, respectively. Pascerella & Terenzini (1983) sought to validate this measure, through path analysis, and found that the responses from a sample of college freshman were consistent with Tinto's (1975) model.

Sample items from this measure include: *Since coming to this university, I have developed close personal relationships with other people* (Peer-Group Interactions), *My nonclassroom interactions with faculty have had a positive influence on my personal growth, values, and attitudes* (Interactions with Faculty), *Few of the faculty members I have had contact with are generally interested in students* (Faculty concern for student development and teaching), and *I am satisfied with the extent of my intellectual development since enrolling in this university* (Academic and Intellectual Development). One other scale from this instrument, the Institutional Goals and Commitment Scale was not used because it measures personal commitment to the institution and explores personal career goals which is not a factor being explored in this research.

Depression Anxiety Stress Scale (DASS; S.H. Lovibond & Lovibond, 1995). This scale was developed in response to the concern that the Beck Depression Inventory-II and the Beck Anxiety Inventory, two of the most widespread measures of Depression and Anxiety, were limited in their discriminant validity, which makes it difficult to determine whether symptoms are attributed to depression or anxiety (Antony, Bieling, Cox, Enns, & Swinson, 1998; Clark & Watson, 1991; P.F. Lovibond, & Lovibond, 1995). The DASS measure is highly discriminant for anxiety and depression and also includes a measure of stress, which assesses for symptoms common to both depression and anxiety. Sample items from this measure include: *I couldn't seem to experience any positive feelings at all* (Depression), *I was aware of dryness in my mouth* (Anxiety), and *I found myself quite upset about trivial things* (Stress). In a sample of undergraduate students across four ethnic groups (African American, Caucasian American, Hispanic

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American, and Asian American), the alpha reliabilities for depression, anxiety, and stress were .83, .78, and .87 respectively (Norton, 2007). Concurrent validity for these scales indicated that the DASS-Depression scale was highly correlated with the BDI ($r = .77$), the DASS-Anxiety scale was highly correlated with the BAI ($r = .84$), and the DASS-Stress was moderately correlated with both the BDI ($r = .62$) and the BAI ($r = .64$; Antony et al., 1998).

College Academic Self-Efficacy Scale (CASES; Owen & Froman, 1988). This scale measures general academic self-efficacy. The CASES is a 33-item measure that assesses students' confidence in several different areas related to the college academic environment. Respondents are asked to indicate how much confidence they have in the 33 listed behaviors utilizing a 5-point Likert-type scale ranging from 1 (very little) to 5 (quite a lot). Sample items from this measure include: *Taking well organized notes during a lecture, Studying enough to understand content thoroughly, and Attending class regularly.* The authors reported a Cronbach's alpha of .90 and an 8-week test-retest reliability estimate of .85 in a sample of psychology undergraduate students. Choi (2005) also conducted a study exploring how academic self-efficacy impacts academic outcomes for college students and the alpha coefficient was .92 for their study. Through factor analysis, Owen and Froman (1988) found that three factors, overt Social Situations, Cognitive Operations, and Technical Skills accounted for 78% of the variance in their sample.

Scale of Perceived Social Self- Efficacy Scale (PSSE; Smith & Betz, 2000). The PSSE scale consists of 25 items that assess an individual's perceived social self-

efficacy. Respondents indicate their confidence in certain behaviors by utilizing a 5-point Likert Scale ranging from 1 (no confidence at all) to 5 (complete confidence). Sample items from this measure include: *How much confidence do you have that you could express your feelings to another person, How much confidence do you have that you could start a conversation with someone you don't know, and How much confidence do you have that you could volunteer to organize an event.* Smith and Betz (2000) reported an internal consistency reliability of .94 for this scale. They also included concurrent validity of the scale and found positive relationship between the PSSE and the Social Self-Efficacy Subscale of the Self-Efficacy Scale (r = .62) and the Social Confidence Scale of the Social Confidence Inventory (r = .53).

Chapter IV

Results

This chapter will highlight the methods and findings of the data analyses for this study. The first section includes descriptive statistics for variables measured in this study including means, standard deviations, and correlations. The next section includes a description of the validity and reliability measures for using the aforementioned instruments within this sample. The final section provides the data analyses and results of the tested hypotheses. This chapter will end with a summary of the results and findings. In this study, hypotheses testing were conducted with a Type I error rate of 0.05, unless otherwise indicated.

Descriptive Analyses

In Chapter III, frequencies and descriptive statistics were provided on the demographic data collected from this sample including undergraduate institution, age, gender, year in program, and degree program. These variables were also utilized in several of the following analyses. Table 6 details the descriptive statistics obtained from the sample on the measures of Social Integration (Peer-Group Interactions and Interactions with Faculty), Academic Integration (Faculty Concern with Student Development and Teaching and Academic and Intellectual Development), and Depression, Anxiety, and Stress. In order to determine level of Depression, Anxiety and Stress, scale items associated with each were summed and compared to a predetermined severity-rating index for each scale ranging from normal to extremely severe. In terms of overall means for this sample, average Depression scores were in the moderate range,

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average Anxiety scores were in the severe range, and average Stress scores were in the

moderate range (S.H. Lovibond & Lovibond, 1995).

Table 6

Descriptive Statistics

Scale Scores	*N*	*M*	sd
Peer-Group Interaction	139	3.54	.79
Interaction with Faculty	140	3.66	.84
Faculty Concern for Student Development and Teaching	140	3.18	.79
Academic and Intellectual Development	140	3.60	.65
Depression	140	20.06	7.62
Anxiety	140	17.94	5.16
Stress	140	23.29	8.57

Note. Scores for Peer-group interactions, Interaction with Faculty, Faculty Concern for

Student Development and Teaching, Academic and Intellectual Development range from

1 to 5. Scores for Depression, Anxiety, and Stress range from 0 to 42.

Reliability and Validity

Prior to running tests to analyze my data, I estimated Cronbach's reliability and validity for these measures within this sample of data. First, I conducted Cronbach's alpha reliability analyses to estimate the internal consistency reliabilities for each scale. Cronbach's α is a widely used estimate of reliability, particularly in the psychological and social sciences (Schmitt, 1996). A test of internal consistency reliability examines how accurately a scale measures a construct. Cronbach's α is a split-half approach. It is an extension of the Kuder–Richardson Formula 20 (KR-20), which is an equivalent measure for dichotomous items. Cronbach's α is related conceptually to the Spearman–Brown prediction formula in that both are based in classical test theory, which indicates that the reliability of test scores can be expressed as the ratio of the true-score variance to the true score plus error variance. The Cronbach's α coefficient is theoretically valued from 0 to 1. In the social sciences, .70 or greater is considered an acceptable value for Cronbach's α (Nunnally, 1978), with values that approach .5 or less representative of chance. Cronbach's α is also effected by test length. If the test length is too short, the value of is reduced; longer tests with more items related to testing the same concept related to increased alpha (Tavakol & Dennick, 2011). Cronbach's α is the most often used estimate of reliability when analyzing data from survey research. Cronbach's alpha reliabilities for the 4 subscales of Social Integration and Academic Integration were as follows: Peer-group Interactions, .84, Interactions with Faculty .85, Faculty Concern for Student Development and Teaching, .72, and Academic and Intellectual Development, .74.

Construct validity is a term that was first coined by Cronbach and Meehl (1955). "Construct validity refers to the degree to which a test measures what it claims, or purports, to be measuring" (Brown, 1996, p. 231). In evaluation of construct validity, correlations of a measure of a construct and measures of variables known to be related to the construct are examined. Pearson's r, factor analysis, or structural equation modeling (SEM), as well as other statistical evaluations that use a correlation matrix can also be used to assess the validity of constructs. Correlations that fit the expected pattern contribute evidence of construct validity. Construct validity is a judgment based on the accumulation of correlations from numerous studies using the instrument being evaluated (Peter, 1981). Today, this measure of validity is frequently used and primarily focused on ensuring that assessments or measures are identifying specified constructs. While some argue the proper utilization of construct validity (Colliver, Conlee, & Velhurst, 2012), it continues to be identified as an effective method of determining whether or not a test examines a particular construct or not.

There are several different types of construct validity. Convergent validity refers to the extent to which two tests that should be measuring the same thing are highly correlated. Divergent validity on the other hand, refers to the extent to which to measures that are measuring two different constructs are not correlated. For the purposes of this study, I examined construct validity of Academic Integration (Academic and Intellectual Development and Faculty Concern for Student Development and Teaching) with its relationship to Academic Self-Efficacy. I also examined construct validity of Social Integration (Peer-group Interactions and Interactions with Faculty) with its relationship to

Perceived Social Self-Efficacy. As displayed in Table 7, correlations were found

between Academic Self-efficacy and Academic and Intellectual Development, Academic

Self-efficacy and Faculty Concern for Student Development, Perceived Social Self-

efficacy and Peer-group Interactions and Perceived Social Self-efficacy and Interactions

with Faculty. However, the relationships between these constructs are not as strong as

would be preferred.

Table 7

Correlations for Construct Validity

Variables	Academic Self-Efficacy	Perceived Social Self-Efficacy
Peer-Group Interactions	--	.38**
		R^2= .14
Interactions with Faculty	--	.30**
		R^2= .09
Academic and Intellectual Development	.34*	--
	R^2= .12	
Faculty Concern	.20*	--
	R^2= .04	

Note. Faculty Concern for Student Development and Teaching has been shortened to Faculty Concern. ** *p* < .01. * p < .05

Data Analyses

  Hypothesis I. Hypothesis I stated that there would be significant relationships between Social Integration (as measured by Peer-group Interactions and Interactions with Faculty) and Academic Integration (as measured by Faculty Concern for Student Development and Academic and Intellectual Development) and Depression, Anxiety, and Stress for Black doctoral students at PWIs. To test this hypothesis, a correlational matrix was constructed and analyzed using Pearson's r, which is a correlation coefficient that measures the strength and direction of a linear relationship between two variables (Meyers, Gamst, & Guarino, 2013). Correlational matrices are commonly used to measure the relationships between two or more interval or ratio variables. The measure of degree or strength is indicated by the correlation coefficient. The advantages of utilizing the correlational matrix are that it demonstrates whether a relationship exists between two or more variables and displays the direction and magnitude of that relationship.

  I chose this analysis for Hypothesis I because the research question for this hypothesis sought to explore the relationships between measures of Academic and Social integration and Depression, Anxiety, and Stress. A correlational matrix was constructed to examine the relationships between Faculty Concern for Student Development, Academic and Intellectual Development, Peer-group Interactions, Interactions with Faculty, Depression, Anxiety and Stress. See Table 8 for correlation matrix. A Pearson r coefficient was calculated for the identified variables. This hypothesis was partially

supported as analyses revealed significant negative correlations between several variables.

As is demonstrated in Table 8, Peer-group Interaction and Depression, ($r = -.29$, $p = .00$) anxiety ($r = -.24$, $p =. 00$), and stress ($r = -.25$, $p = - .00$) were significantly and negatively related. This finding suggests that as peer-group interaction increases, depression, anxiety, and stress decreases. Interaction with faculty also had a significant negative relationship with Depression ($r = -.24$, $p = .00$). Similarly, this finding suggests that as faculty interaction increases, depression decrease. Therefore, greater social integration, as measured by interactions with faculty and peer-group Interaction, is associated with less depression.

Faculty Concern for Student Development and Teaching and Depression had a significant negative relationship ($r = -. 19$, $p = .00$). Greater perceived faculty concern for teaching and student development was associated with less depression. There were also significant negative relationships between Academic and Intellectual Development and Depression ($r = -.31$, $p = .00$), Anxiety ($r = -.20$, $p = .02$), and Stress ($r = -.18$, $p = .03$). Greater academic and intellectual development was associated with less depression, anxiety, and stress. However, there was no significant relationship between Interactions with Faculty and Anxiety ($r = -.16$, $p = .06$) and Stress ($r = -.16$, $p = .06$). There was also no significant relationship between Faculty Concern for Student Development and Anxiety ($r = -.08$, $p = .35$) and Stress ($r = -.05$, $p = .58$).

Table 8

Correlation Matrix

Variables	Peer-Group Interactions	Interactions with Faculty	Faculty Concern	Academic and Intellectual Development	Depression	Anxiety	Stress
Peer-Group Interactions	--						
Interactions with Faculty	**.32**** .00	--					
Faculty Concern	**.20*** .02	**.46**** .00	--				
Academic and Intellectual Development	**.33**** .00	**.48**** .00	**.42**** .00	--			
Depression	**-.29**** .00	**-.24**** .00	**-.19*** .02	**-.31**** .00	--		
Anxiety	**-.24**** .00	-.16 .06	-.08 .35	**-.20*** .02	**.76**** .00	--	
Stress	**-.25 **** .00	-.16 .05	-.05 .58	**-.18*** .03	**.69**** .00	**.78**** .00	--

Note. Faculty Concern for Student Development and Teaching has been shortened to Faculty Concern. ** *p* < .01. * p < .05

Multiple Regression. Hypothesis II stated that Social integration, as measured by Peer-group Interactions and Interactions with Faculty, and Academic Integration, as measured by Faculty Concern for Student Development and Teaching and Academic and Intellectual Development, would be significant predictors of Depression, Anxiety, and Stress for Black doctoral students at PWIs. An advantage of multiple regression is its versatility and power as an analytic tool. Multiple regression can be used to measure the significance of multiple factors on a dependent variable and also determine those factors net effects on the dependent variable. Multiple regression analyses are used in a variety of different fields to explore a wide range of research questions.

The multiple regression analysis was chosen for this hypothesis because the research question sought to explore predictors of Depression, Anxiety, and Stress. To test this hypothesis, data were analyzed by utilizing 3 four-predictor multiple regression analyses (see Table 9 for multiple regression model summaries and Table 10 for multiple regression model coefficients). This hypothesis was supported as each model was found to be significant.

First, a multiple regression procedure was utilized to predict depression from Peer-group Interactions, Interactions with Faculty, Faculty Concern for Student Development and Teaching, and Academic and Intellectual Development. The four-predictor model accounted for 14% of the variance in depression (F (4, 134) = 5.51, $p <$ .01, R^2 = .146). Peer-group interactions (t = -2.30, $p <$ .05) and Academic and Intellectual Development (t = -2.00, $p <$ .05) were the significant predictors in this model. Another multiple regression procedure was utilized to predict anxiety from Peer-group

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Interactions, Interactions with Faculty, Faculty Concern for Student Development and

Teaching, and Academic and Intellectual Development. This four-predictor model

accounted for 8% of the variance in anxiety (F (4, 134) = 2.78, $p < .05$, $R^2 = .08$). This

model revealed Peer-group interactions ($t = $ -2.10, $p < .05$) as the only significant

predictor of Anxiety. The third multiple regression procedure was used to predict stress

from Peer-group Interactions, Interactions with Faculty, Faculty Concern for Student

Development and Teaching, and Academic and Intellectual Development. This four-

predictor model accounted 9% of the variance in stress (F (4, 134) = 3.15, $p < .05$, $R^2 = $

.09). Again, Peer-group interactions was the only significant predictor ($t = $ -2.39, $p < .05$)

of stress.

Table 9

Summary of Simple Regression Analyses Predicting Depression, Anxiety, and Stress

Models	R	R^2	SE	F
Model A	.38	.14	7.20	**5.51****
				$p = .00$
Model B	.28	.08	5.06	**2.78***
				$p = .03$
Model C	.29	.09	8.34	**3.15***
				$p = .02$

Note. A. Dependent Variable: Depression, B. Dependent Variable: Anxiety, C.

Dependent Variable: Stress. * $p < .05$; ** $p < .01$.

Table 10

Multiple Regression Model Coefficients

Predictor	Depression			Anxiety			Stress		
	B	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Intercept	38.52	4.02		26.43	2.82		36.95	4.66	
Peer-group Interactions	-1.92	.84	**-.20***	-1.23	.59	**-.19***	-2.31	.97	**-.21***
Interactions with Faculty	-.64	.90	-.07	-.41	.63	-.07	-.91	1.04	-.09
Faculty Concern	-.38	.90	-.04	.27	.63	.04	.94	.1.04	.09
Academic and Intellectual Development	-2.26	1.13	**-.19***	-.98	.80	-.12	-1.44	1.31	-.11

Note. Faculty Concern for Student Development and Teaching has been shortened to Faculty Concern. * p < .05.

Hypothesis III. Hypothesis III stated that there would be a significant difference in Depression, Anxiety, Stress, Peer-group Interactions, Interactions with Faculty, Faculty Concern for Student Development and Teaching, and Academic and Intellectual Development as a function of Undergraduate Institution, Age, Gender, Year in Program, and Degree Program. This hypothesis was tested utilizing a Multivariate Analysis of Variance (MANOVA). The MANOVA is a statistical test used to analyze whether or not two or more independent variables have an effect on two or more sets of dependent variables. When utilizing this statistical analysis, inter-group differences on y are maximized as a linear function of the dependent variables. The MANOVA offers unique opportunities for analyses by allowing for an exploration of the variety of ways variables may interact with each other and have relationships. This is not offered by running separate ANOVAs. In this sense, the MANOVA tends to be more powerful because it holds alpha constant across equations and lessens the likelihood of a Type I error that might occur by running multiple ANOVAs (Bray & Maxwell, 1985).

The MANOVA was chosen to test this hypothesis because the research question sought to examine differences in means as a function of several demographic variables, including type of undergraduate institution. A MANOVA was conducted to analyze the differences between the mean scores of Depression, Anxiety, Stress, Academic Integration and Social Integration. Before conducting this analysis of the data, the two "other gender" cases were removed in order to obtain a more balanced number of participants in each gender group. See Table 11 for Multivariate results of MANOVA. This analysis revealed a significant multivariate main effect of undergraduate institution

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on the differences between Depression, Anxiety, Stress, Peer-group Interactions,

Interactions with Faculty, Faculty Concern for Student Development and Teaching, and

Academic and Intellectual Development (Wilks' $\lambda = .03$, $F(3, 7) = 12.95$, $p < .05$, partial

eta squared = .97). Thus, Hypothesis III was partially supported. There were no

significant effects of year in program, age, gender, or degree program.

Given the significance of the main effects and interaction effects, multivariate

main effects and interaction effects were explored. Significant multivariate main effects

for undergraduate institution were obtained for Academic and Intellectual Development

($F(1, 9) = 5.92$, $p < .05$, partial eta squared = .40, power = .58) and Anxiety ($F(1, 9) =$

9.61, $p < .05$, partial eta squared = .52, power = .79). Pairwise differences were also

obtained for Academic and Intellectual Development and Anxiety as a function of type of

undergraduate institution. Academic and Intellectual Development for students who

attended an HBCU for undergrad was 3.79 and 3.55 (Mean Difference = .24, $SE = .10$)

for students who attended PWIs. Anxiety scores for students who attended an HBCU for

undergrad was 19.00 and 17.68 (Mean Difference = -1.32, $SE = .42$) for students who

attended a PWI. See Table 12 for pairwise comparisons.

A post-hoc MANCOVA was conducted to further explore the differences in these

groups while controlling for possible confounding continuous independent variables. Age

and Year in Program were included as covariates. The results of this analysis

demonstrated a significant main effect for Year in Program. These findings provide

further evidence that Age and Year in Program are important factors to consider in

understanding the differences in academic integration, social integration, depression,

Anxiety, and Stress for this sample of Black doctoral students based on whether or not they attended an HBCU or PWI for their undergraduate education.

Table 11

Multivariate Results for MANOVA

Variables	F	*p*	Wilk's λ	df
HBCU	12.95	.03	.03*	3
Age	1.50	.09	.00	31.22
Degree Program	.756	.74	.03	12.24
Gender	2.00	.31	.18	3
Year in Program	2.10	.06	.00	15

Note. * $p < .05$.

Table 12

Pairwise comparisons for Undergraduate Institution

DV	Undergraduate Institution	Means	SE	Lower Bound	Upper Bound	Mean Difference	Sig.
				99% Confidence Interval			
Peer- Group Interactions	PWI	3.49	.07	3.33	3.65	.12	.40
	HBCU	3.61	.13	3.33	3.90		
Interactions with Faculty	PWI	3.73	.06	3.60	3.88	.17	.24
	HBCU	3.57	.12	3.30	3.83		
Faculty Concern	PWI	3.19	.10	2.96	3.41	.07	.76
	HBCU	3.25	.18	2.84	3.67		
Academic and Intellectual Development	PWI	3.55*	.05	3.44	3.66	.24	.04
	HBCU	3.79*	.09	3.60	3.989		
Depression	PWI	20.05	.53	18.84	21.26	.38	.74
	HBCU	20.43	.97	18.23	22.63		
Anxiety	PWI	17.68**	.20	17.22	18.14	1.32	.01
	HBCU	19.00**	.37	18.16	19.84		
Stress	PWI	23.38	.34	22.62	24.13	.82	.27
	HBCU	24.20	.61	22.82	25.58		

Note. Faculty Concern for Student Development and Teaching has been shortened to Faculty Concern. * $p < .05$. ** $p < .01$.

Summary

In this chapter, the results of the statistical analyses were presented for Black doctoral students at PWIs. Three hypotheses were tested. Chapter V will include an interpretation and discussion of the findings and results presented in this chapter. Chapter V will also include implications for practice, limitations of this study, and suggestions for future research.

Chapter V

DISCUSSION

Introduction

This chapter will present an interpretation of the results presented in Chapter IV. I will situate these results in the context of the theory of college student retention (Tinto, 1975) and findings of previous research regarding Black doctoral students at PWIs. I will also discuss how the findings of this current research can be used clinically, especially for mental health providers in university counseling centers and in centers, clinics, or practices that treat a large student population. Then, there will be a discussion of the limitations of the current study and suggestions for future research when considering the Black doctoral student population and their academic and mental health outcomes. This chapter will end with a summary of the study and conclusions regarding the findings.

Interpretation of Findings

As stated in Chapter IV, the results of this study partially supported all three of the proposed hypotheses. First, there were significant negative relationships found between peer interaction and depression, anxiety, and stress. This finding stresses the importance of social support for Black doctoral students at PWIs. It suggests that Black doctoral students who experience higher levels of social support and peer interaction also experience lower levels of depression, anxiety, and stress. As mentioned earlier, Jairam & Kahl (2012) found that peer interactions for doctoral students provided emotional, academic, and professional support. This finding is similar to the results of Johnson-Bailey et al. (2008) who reported the benefits of social support of Black friends and peers

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in doctoral programs. This finding is also similar to literature that discusses the benefits of engagement in social organizations for Black students (e.g., Guiffrida, 2003 & Baker, 2008).

A significant negative relationship was also found for academic and intellectual development and depression, anxiety and stress. This finding suggests that students who experience less depression, anxiety, and stress have the ability to develop academically and intellectually and when they perceive themselves to be developing in this way have decreased symptoms of depression, anxiety, and stress. This finding is similar to research that indicates that mental states have a relationship with well-being and academic achievement and performance (Hyun et al., 2006). Depression was the only outcome that had a significant relationship with both measures of academic integration and both measures of social integration. This finding suggests that increased academic and social integration for Black doctoral students at PWIs can reduce their symptoms of depression. This is the first time this relationship has been explicitly explored; therefore, these findings extend the knowledge base of Black doctoral students at PWIs and potential challenges to their mental health.

Previous research related to depression among university students would also support this finding. For example, DeRoma, Leech, and Leverett (2009) found that students who endorsed symptoms of depression had lower academic performance in comparison to students who did not endorse symptoms of depression. Some research even proposed that depression predicts persistence (Eisenberg et al., 2009). While

academic performance was not a measure in this current study, it is a component of academic integration, particularly as it relates to academic and intellectual development.

The results of the multiple regressions suggest that academic and social integration predict depression, anxiety, and stress. Peer-group interactions was the one factor that was a significant predictor in all three of the models. This again points to the importance of peer relationships and social interactions for Black students. Other studies have found it difficult to separate faculty relationships from peer relationships when considering the impact of social support for Black students (e.g., Defour & Hirsch, 1990; Guiffrida & Douthit, 2010; Jairam & Kahl; Joseph, 2012). However, it is clear that for Black doctoral students at PWIs, peer interaction plays a significant role in reducing depression, anxiety, and stress. Academic and intellectual development was also a significant predictor of depression. This finding is not one that has been explored in previous studies. However, given the findings of Furr, Westefeld, McConnell, and Jenkins (2001) who reported that grade problems were the most commonly cited causes of depression in college students, the findings of the current study appear to be similar to existing research exploring the relationship between students' engagement in the academic environment and depression. Furr et al. (2001) also found that the second most commonly reported cause of depression was loneliness, which further supports the finding that peer interactions predict depression.

The third hypothesis tested provided significant results as it relates to the question of whether types of undergraduate institutions were a factor that contributed to students' social and academic integration in graduate school at PWIs. Other demographic

variables that appeared to be important in the existing literature, such as age, gender, year

in program and degree program, were also included in this analysis. The results of the

MANOVA indicated that when controlling for these background characteristics, the only

significant factor that showed differences in academic and social integration and

depression, anxiety, and stress was undergraduate institution, or whether students

attended an HBCU or a PWI. Specifically the means that were found to be different for

these two groups were academic/intellectual development and anxiety. This indicates

that students who attended HBCUs for their undergraduate education, then attended PWIs

for their graduate education, reported significantly more academic and intellectual

development than their counterparts who attended PWIs for both their undergraduate and

graduate education. However, those students who attended HBCUs for undergrad also

reported more anxiety during graduate studies at PWIs.

This finding is contradictory to the previous finding of Kim (2002), which was

that there are no significant differences between academic development of Black students

who attend HBCUs and those who attend PWIs. In this current study, those Black

students who attended HBCUs as undergraduate students reported more academic

development, which could mean that HBCUs are successful in developing their students

academically in a way that prepares them to further develop and achieve academically

and intellectually in graduate school (Joseph, 2012; Kim & Conrad, 2006; Perna et al.,

2009). The finding, however, is analogous to that of Kim (2004). In Kim's study,

students who attended HBCUs as undergraduates developed an intrinsic curiosity and

desire to learn that fostered their intellectual development. This intellectual development

(as measured by academic performance) was predicted by students spending more out of the classroom with faculty and by lower student to faculty ratios (which is a typical occurrence in HBCUs) (Kim, 2004).

The significant relationships found in this current study offer new insights for a population of students that is often underrepresented in the literature. While several researchers have explored the experiences of Black undergraduate students at PWIs, very few have focused on the experiences of Black doctoral students. The findings of this current study contribute to the field by helping us understand the academic and social experiences of Black doctoral students and how this impacts their mental health outcomes. Since depression, anxiety, and stress have been found to negatively impact academic performance and persistence, it is of great importance to understand these relationships for this specific population.

Another area that has been explored minimally is the impact of type of undergraduate institution on graduate level education. The findings of this current study would suggest that type of undergraduate institution does play a part in the experiences of Black doctoral students, both positively and negatively. These findings offer several clinical implications for working with Black doctoral students, particularly for mental health providers, which will be discussed in the following section.

Clinical Implications

Academic and social integration appears to be a factor that could play a significant role in alleviating some of these barriers and challenges, specifically regarding reducing depression, anxiety, and stress. Previous research supports building faculty and

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peer relationships, creating curriculum that is racially conscious and encouraging

participation in organizations both on campus and within the community (Guiffrida, 2003

& Guiffrida, 2006a).

Along with these recommendations and based on the results of this study, I would

suggest placing more emphasis on utilizing mental health providers as resources for these

students. As indicated by these findings, there are benefits for students who socially

integrate into the environment of the PWI for graduate school, particularly when it comes

to peer relationships. Having the ability to do this could potentially increase their

opportunities to navigate and thrive in their institutions as opposed to just surviving.

Mental health services could assist these students in achieving this goal. As opposed to

allowing students to figure this out alone, counseling services and support groups could

assist in facilitating this process. Given that counseling services often provide

opportunities for students to have interpersonal connections and social support, this could

possibly serve as another form of social support or integration for Black doctoral

students.

Another way of utilizing these findings is considering the needs of Black students

based on where they attended undergrad. There is often an assumption that the

preparation for academic work of graduate education is inferior if students attended an

HBCU for undergrad due to the assumption that students who attend HBCUs have lower

GPAs, SAT scores, or come from low SES backgrounds (Allen, 1992; Palmer, Maramba,

& Lee, 2010). In fact, Palmer et al. (2010) found that students who were disinclined to

attend HBCUs held the misconception that these institutions lacked the academic rigor of

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PWIs. However, the findings of this study would suggest that students who attended

HBCUs for their undergraduate education perceive themselves as having more academic

and intellectual development than their counterparts who attended PWIs. Moreover,

there is evidence from this current study that anxiety is related to a lack of academic and

social integration. Therefore, if Black doctoral students are experiencing challenges in

becoming academically integrated, it is important for faculty members, mentors, etc., to

consider the possibility that anxiety is a contributing factor and that it is not lack of

academic ability per se. Recommending that they seek out mental health services for

support in managing anxiety may be the key factor to promoting Black graduate students

academic performance. Stereotype threat is a form of anxiety that presents a barrier to

academic performance in spite of ability and knowledge (Steele, 1997). Since students

are often the only Black student or student of color in their program at PWIs, which is a

large contrast from attending an HBCU for undergrad, they may experience certain

pressures to represent Black students well or counteract negative stereotypes which may

negatively impact performance. As Tinto (1993) suggested, faculty interactions and

perceptions of students' abilities both formally and informally can contribute greatly to

students' integration.

Faculty members taking into consideration the way they discuss students'

progress and performance and offer words of encouragement, feedback, advice and

support could make a large difference in Black students ability to thrive, especially those

from HBCUs. This would also be an important place, again, for mental health providers

to be included. Understanding the academic background of students, not just

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performance, but also culturally, may assist in getting a better understanding of the source of anxiety for these students. The differences in the undergraduate environment and the graduate environment may be key to understanding a source of their anxiety in graduate school. This is also in line with Watson and Kuh's (1996) research, which suggested that Black students exert energy to deal with isolation and lack of campus support at PWIs that could be exerted towards academic advancement. While this study focused on graduate students, it could also be applied to undergraduate students given the findings of this study around implications for challenges to mental health.

Limitations

There are several limitations of this study that must be considered when interpreting these results. Regarding measures, in the demographic survey, participants could choose from multiple categories of race, but very few identified multiple races. Thus, the variability in racial categorizations (e.g., multiracial) was not able to be explored as a factor that influences the experiences of doctoral students who attend HBCUs and PWIs. The measure of academic and social integration used in this study was not normed with this population when developed. It also had low construct validity with the measures of academic self-efficacy and perceived social self-efficacy. This must be taken into consideration when interpreting these results. Results of this study may have been affected by mono-method bias. This study did not employ observational data, which could assure greater confidence concerning the validity of the constructs measured in this study.

Regarding sampling and generalizability, graduate students were sampled from institutions primarily on the east coast and in the midwest. Thus, these results may not generalize to students in other regions of the country. Students were sampled from research intensive institutions. Thus, these results may not generalize to graduate students who choose to attend Ph.D. programs in institutions that are not research intensive. Students from HBCUs were oversampled, thus skewing the results of the statistical analyses used in the direction of the responses of these students. Sampling was accomplished primarily via student organizations, such as Black Graduate and Professional Students. Students who did not belong to or correspond with these organizations were not sampled. Thus, the results of this study may not be generalizable to students who do not belong to Black student associations or correspond with these organizations through such mediums as Facebook.

Future Research

The majority of the research that focuses on Black doctoral students takes into consideration racial identity factors and the impact of racism, discrimination, and/or microaggressions. Since this research is race-related, utilizing measures that are related to these topics to further explore challenges to the mental health of Black doctoral students at PWIs would contribute greatly to this body of research. Another area of future research could be incorporating a more nationally representative sample and including more institutions. This would allow for a more broad exploration of interactions among the factors plus the inclusion of factors not in this current study (e.g., public vs. private, research intensity, and geographic location).

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This could also include a more descriptive analysis of undergraduate institution. For example, exploring if those institutions were public or private, same- sex, or had small or large enrollment could help contextualize further research. Future research should also conduct longitudinal analyses of mental health outcomes and whether or not this changes by year in program or phase of doctoral program, and degree program. It could be that at different stages in the progression towards doctoral degree, depression, anxiety, and stress may look different for the same student. Another extension of this current research would be to explore how undergraduate institutions, academic and social integration and mental health outcomes impact persistence. Since retention of Black doctoral students continues to be an effort, exploring whether or not these variables indeed do contribute to persistence would be a beneficial addition to the literature.

Future research could also benefit from including other demographic variables, such as the number of Black students in a particular program. There is a possibility that there would be a difference for students who are the only Black student in their program and students who have several other Black students in their program. This could also be true for the number of Black students at the institution. Similar to having other Black students in the program, having other Black students on campus to interact with could also be an important factor to consider. Another important background variable to consider is parent's educational level, specifically whether a parent has a doctoral level degree. Considering how coming from this background impacts student's ability to thrive in this environment could potentially provide useful information to this body of research.

Summary

Understanding the experiences of Black doctoral students at PWIs is essential to assessing their needs for successful educational attainment and degree completion. The ability to thrive not just academically but also socially in their academic environment appears to be an important factor in determining whether these students will experience challenges to their mental health. These factors could also potentially influence their success in degree completion.

For this sample of Black doctoral students, all four measures of academic and social integration had a significant negative relationship with depression. The findings for this sample also indicated that peer interaction was a significant predictor of depression, anxiety, and stress. Academic and intellectual development was also found to be a significant predictor of depression. These findings suggest that integration into the academic and social environments is related to factors that impact mental health for Black doctoral students. In this sample, type of undergraduate institution was also found to have significant differences on academic/intellectual development and anxiety. Specifically, students who attended HBCUs for their undergraduate education reported higher levels of academic/intellectual development as well as higher levels of anxiety. These findings offer new information as it relates to the graduate experiences of Black doctoral students at PWIs.

First, it presents the factors of academic and social integration as factors that impact Black doctoral students mental health during their graduate studies. This is the first study to explore how these variables are related to challenges to mental health. This

is also the first study to explore these factors with a Black doctoral student population. The current study is also unique in its utilization of type of undergraduate institution as a factor. These findings offer insight into ways to support Black doctoral students at PWIs by exploring factors related to their academic and social integration, challenges to mental health outcomes, and considering their needs based on the type of institution they attended for their undergraduate education.

Conclusion

Given the historical context of educational attainment for Black people in the US and the current barriers and challenges that still exist today, this study sought to explore the graduate experiences of Black doctoral students at PWIs. The purpose of this study was to quantitatively examine and explore academic and social integration, depression, anxiety, and stress for Black doctoral students and whether there are differences in these factors base on type of undergraduate institutions. Included in this exploration were the factors of academic and social integration at the core of Tinto's (1975) theory of college student retention. Results indicated that there are relationships between the various components of academic and social integration and depression, anxiety, and stress for Black doctoral students at PWIs. These results also illuminated type of undergraduate institution as a significant factor in understanding differences in Black doctoral students academic and social integration and depression, anxiety, and stress. Understanding the academic and social needs of Black doctoral students at PWIs and how they may differ based on whether they attended an HBCU or a PWI will enhance the abilities of faculty, staff, and administrators to offer support to these students. An acknowledgement of

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students' mental health concerns and guiding them to the appropriate resources will also

benefit these students' matriculation.

References

Allen, W. R. (1992). The color of success: African-American student outcomes at

predominately White and historically Black public universities. *Harvard Review, 62*(1), 26-44. Retrieved from http://ets.mnsu.edu/darbok/ETHN201/ the%20color%20of%20success.pdf

Allen, W. R., & Jewell, J. O. (2002). A backward glance forward: Past, present and future

perspectives on historically Black colleges and universities. *The Review of Higher Education, 25*, 241-261. doi: 10.1353/rhe.2002.0007

Allen, W. R., Jewell, J. O., Griffin, K. A., & Wolf, D. S. (2007). Historically black

colleges and universities: Honoring the past, engaging the present, and touching the future. *The Journal of Negro Education, 76*, 263-280. Retrieved from http://www.jstor.org.ezp3.lib.umn.edu/stable/40034570

Anderson, E. F., & Hrabowski, F. A. (1977). Graduate school success of Black students

from White colleges and Black colleges. *The Journal of Higher Education, 48*, 294-303. doi: 10.2307/1978682

Anonymous. (2007/2008). Black bachelor's degree recipients are fueling the jump in

graduate school enrollment. *The Journal of Blacks in Higher Education, 58*, 26.

Antony, M. M., Bieling, P. J., Cox, B. J., Enns, M. W., & Swinson, R. P. (1998).

Psychometric properties of the 42-item and 21-item versions of the depression anxiety stress scales in clinical groups and a community sample. *Psychological Assessment, 10*, 176-181. doi: 10.1037/1040-3590.10.2.176

Avery, S. (2009). Taking the pulse of historically Black colleges. *Academic Questions,*

22, 327-339. doi: 10.1007/s12129-009-9116-8

Ayalon, L., & Young, M. A. (2005). Racial group differences in help-seeking

behaviors. *The Journal of Social Psychology*, *145*, 391-404. doi:

10.3200/SOCP.145.4.391-404

Baker, C. N. (2008). Under-represented college students and extracurricular involvement:

The effects of various student organizations on academic performance. *Social*

Psychology of Education, 11, 273-298. doi: 10.1007/s11218-007-9050-y

Bayram, N., & Bilgel, N. (2008). The prevalence and socio-demographic correlations of

depression, anxiety and stress among a group of university students. *Social*

Psychiatry and Psychiatric Epidemiology, 43, 667-672. doi: 10.1007/s00127-008-

0345-x

Bean, J. P., & Eaton, S. B. (2000). A psychological model of college student retention. In

J. M. Braxton (Ed.) *Reworking the student departure puzzle* (pp. 48–61).

Nashville, TN: Vanderbilt University Press.

Bettez, S. C., & Suggs, V. L. (2012). Center the educational and social significance of

HBCUs: A focus on the educational journeys and thoughts of African American

scholars. *Urban Review, 44*, 303-310. doi: 10.1007/s11256-012-0201-x

Bray, J. H., & Maxwell, S. E. (Eds.). (1985). *Multivariate analysis of variance (No. 54)*.

Thousand Oaks, CA: Sage.

Bridglall, B. L., & Gordon, E. W. (2004). The nurturance of African American scientific

talent. *The Journal of African American History*, *89*, 331-347. doi:

10.2307/4134058

125

Brower, A. M., & Ketterhagen, A. (2004). Is there an inherent mismatch between how Black and White students expect to succeed in college and what their colleges expect from them? *Journal of Social Issues, 60*, 95-116. doi: 10.1111/j.0022-4537.2004.00101.x

Brown, J. D. (1996). Testing in language programs. Upper Saddle River, NJ: Prentice Hall Regents.

Brown, T. N., Williams, D. R., Jackson, J. S., Neighbors, H. W., Torres, M., Sellers, S. L., & Brown, K. T. (2000). Being Black and feeling blue: The mental health consequences of racial discrimination. *Race and Society, 2*, 117-131. doi: 10.1016/S1090-9524(00)00010-3

Brown vs. Board of Educ., 347 U.S. 483 (1954).

Cabrera, A. F., Nora, A., Terenzini, P. T., Pascarella, E., & Hagedorn, L. S. (1999). Campus racial climate and the adjustment of students to college: A comparison between White students and African-American students. *Journal of Higher Education, 70*, 134-160. doi: 10.2307/2649125

Carnegie Foundation for the Advancement of Teaching. (2014). *Classification Data File, 2010* [Data file]. Retrieved from http://classifications.carnegiefoundation.org/ resources/

CIC Member Universities. (2014). *Committee on Institutional Cooperation.* Retrieved from https://www.cic.net/about-cic/member-universities

Choi, N. (2005). Self efficacy and self concept as predictors of college students'

academic performance. *Psychology in the Schools*, *42*, 197-205. doi:
10.1002/pits.20048

Clark, L. A., & Watson, D. (1991). Tripartite model of anxiety and depression:
Psychometric evidence and taxonomic implications. *Journal of Abnormal
Psychology, 100,* 316- 336. doi: 10.1037/0021-843X.100.3.316

Cole, E. R., & Omari, S. R. (2003). Race, class, and the dilemmas of upward mobility for
African Americans. *Journal of Social Issues, 50,* 785-802. doi: 10.1046/j.0022-
4537.2003.00090.x

Colliver, J. A., Conlee, M. J., & Verhulst, S. J. (2012). From test validity to construct
validity… and back? *Medical education, 46,* 366-371. doi: 10.1111/j.1365-
2923.2011.04194.x

Combs, D. R., Penn, D. L., Cassisi, J., Michael, C., Wood, T., Wanner, J., & Adams, S.
(2006). Perceived racism as a predictor of paranoia among African
Americans. *Journal of Black Psychology, 32,* 87-104. doi:
10.1177/0095798405283175

Cornelius, J. (1983). "We slipped and learned to read:" Slave accounts of the literacy
process, 1830-1865. *Phylon, 44,* 171-186. doi: 10.2307/274930

Cotten, S. R., & Wilson, B. (2006). Student–faculty interactions: Dynamics and
determinants. *Higher Education, 51,* 487-519. doi: 10.1007/s10734-004-1705-4

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests.
Psychometrika, *16*(3), 297-334. doi: 10.1007/BF02310555

Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests.

127

Psychological Bulletin, 5, 281-302.

Dahlin, M., Joneborg, N., & Runeson, B. (2005). Stress and depression among medical

students: A cross-sectional study. *Medical Education, 39*, 594-604. doi:

10.1111/j.1365-2929.2005.02176.x

Davis, M., Dias-Bowie, Y., Greenberg, K., Klukken, G., Pollio, H. R., Thomas, S. P., &

Thompson, C. L. (2004). "A fly in the buttermilk": Descriptions of university life

by successful Black undergraduate students at a predominately White

southeastern university. *The Journal of Higher education, 75*, 420-445. doi:

10.1353/jhe.2004.0018

DeFour, D. C., & Hirsch, B. J. (1990). The adaptation of Black graduate students.

American Journal of Community Psychology, 18, 487-503. doi:

10.1007/BF00938119

DeRoma, V. M., Leach, J. B., & Leverett, J. P. (2009). The relationship between

depression and college academic performance. *College Student Journal, 43*,

325-334. Retrieved from http://web.b.ebscohost.com.ezp3.lib.umn.edu

Eisenberg, D., Golberstein, E., & Hunt, JB. (2009). Mental health and academic success

in college. *The B.E. Journal of Economic Analysis and Policy, 9*(1). Retrieved

from http://www.degruyter.com/view/j/bejeap

Eisenberg, D., Gollust, S.E., Golberstein, E., & Hefner, J.L. (2007). Prevalence and

correlates of depression, anxiety, and suicidality among university students.

Journal of Orthopsychiatry, 77, 534-542. doi: 10.1037/0002-9432.77.4.534

Eisenberg, D., Hunt, J., & Speer, N. (2013). Mental health in American colleges and

universities. *The Journal of Nervous and Mental Disease, 201*, 60-67. doi: 10.1097/NMD.0b013e31827ab077

El-Ghoroury, N. H., Galper, D. I., Sawaqdeh, A., & Bufka, L. F. (2012). Stress, coping, and barriers to wellness among psychology graduate students. *Training and education in professional psychology, 6*, 122- 134. doi: 10.1037/a0028768

Feagin, J. R. (1992). The continuing significance of racism: Discrimination against Black students in White colleges. *Journal of Black Studies, 22*, 546-578. doi: 10.1177 /002193479202200407

Felder, P. (2010). On doctoral student development: Exploring faculty mentoring in the shaping of African American doctoral student success. *The Qualitative Report, 15*, 455-474. Retrieved from http://files.eric.ed.gov/fulltext/EJ875264.pdf

Fleming, J. (1984). *Blacks in College*. San Francisco: Jossey-Bass Publishers.

Flynn, A. M., Sanchez, B., & Harper, G. W. (2011). An ecological analysis of research examining the experiences of students of color in graduate school. *Journal of Diversity in Higher Education, 1*, 1-11. doi: 10.1037/a0021506

Foster, L. (2005). The practice of educational leadership in African American communities: Context, scope, and meaning. *Educational Administration Quarterly, 41*, 698-700. doi: 10.1177/0013161X04274276

Fountaine, T. P. (2012). A Quantitative investigation of predictors for engagement at HBCUs. In R. T. Palmer, A. A. Hilton, & T. P. Fountaine (Eds), *Black Graduate Education at Historically Black Colleges and Universities* (pp. 133-151)*. Charlotte: Information Age Publishing, Inc.

Freeman, K., & Thomas, G. E. (2002). Black colleges and college choice: Characteristics of students who choose HBCUs. *The Review of Higher Education, 25*, 349-358. doi: 10.1353/rhe.2002.0011.

Fries-Britt, S. L., & Turner, B. (2001). Facing stereotypes: A case study of Black students on a White campus. *Journal of College Student Development. 42*, 420-429. Retrieved from http://psycnet.apa.org.ezp3.lib.umn.edu/psycinfo/2001-18547-002

Fries- Britt, S. L., & Turner, B. (2002). Uneven stories: Successful Black collegians at a Black and a White campus. *The Review of Higher Education, 25*, 315- 330. doi: 10.1353/rhe.2002.0012

Furr, S. R., Westefeld, J. S., McConnell, G. N., & Jenkins, J. M. (2001). Suicide and depression among college students: A decade later. *Professional Psychology: Research and Practice, 32*, 97-100. doi: 10.1037/0735-7028.32.1.97

Gasman, M., Hirschfeld, A., & Vultaggio, J. (2008). "Difficult yet rewarding": The experiences of African American graduate students in education at an ivy league institution. *Journal of Diversity in Higher Education, 1*, 126-138. doi: 10.1037/1938-8926.1.2.126

Gildersleeve, R. E., Croom, N. N., & Vasquez, P. L. (2011). "Am I going crazy?!": A critical race analysis of doctoral education. *Equity & Excellence in Education, 44*, 93-114. doi: 10.1080/10665684.2011.539472

Gilmore, A.D., Osho, G.S., & Heads, A.B. (2013). Stress, anxiety, depression, and

psychological responses among African Americans: Empirical investigation and

coping strategies. *American Journal of Health Sciences, 4*, 121-130. Retrieved

from http://journals.cluteonline.com/index.php/AJHS/article/view/8008

Graham, S., & Donaldson, J. F. (1999). Adult students' academic and intellectual

development in college. *Adult Education Quarterly, 49*, 147-161. doi:

10.1177/074171369904900302

Grant, C. M., & Simmons, J. C. (2008). Narratives on experiences of African-American

women in the academy: Conceptualizing effective mentoring relationships of

doctoral student and faculty. *International Journal of Qualitative Studies in

Education, 21*, 501-517. doi: 10.1080/09518390802297789

Guiffrida, D. (2003). African American student organizations as agents of social

integration. *Journal of College Student Development, 44*, 304-319. doi:

10.1353/csd.2003.0024

Guiffrida, D. (2005). Othermothering as a framework for understanding African

American students' definitions of student-centered faculty. *The Journal of Higher

Education, 76*, 701-723. doi: 10.1353/jhe.2005.0041

Guiffrida, D. A. (2006a). *The African American Student Experience at Predominantly

White Colleges: Implications for School and College Counselors* (Doctoral

dissertation). University of Rochester, Rochester, NY.

Guiffrida, D. A. (2006b). Toward a cultural advancement of Tinto's theory. *The Review

of Higher Education, 29*, 451-472. doi: 10.1353/rhe.2006.0031

Guiffrida, D. A., & Douthit, K. Z. (2010). The Black student experience at

131

predominately White colleges: Implications for school and college counselors. *Journal of Counseling & Development, 88*, 311-318. doi: 10.1002/j.1556-6678.2010.tb00027.x

Hall, B., & Closson, R. B. (2005) When the majority is the minority: White graduate students' social adjustment at a historically Black university. *Journal of College Student Development, 46*, 661-676. doi: 10.1353/csd.2005.0004

Harper, S. R., Patton, L. D., & Wooden, O. S. (2009). Access and equity for African American students in higher education: A critical race historical analysis of policy efforts. *Journal of Higher Education, 80*, 389-414. doi: 10.1353/jhe.0.0052

Harrison, L. A., Stevens, C. M., Monty, A. N., & Coakley, C. A. (2006). The consequences of stereotype threat on the academic performance of White and non-White lower income college students. *Social Psychology of Education, 9*, 341-357. doi: 10.1007/s11218-005-5456-6

Historically Black Colleges and Universities Ranking. (2014) *U.S. News and World Report.* Retrieved from http://colleges.usnews.rankingsandreviews.com/best-colleges/rankings/hbcu/page+2

Holcomb McCoy, C., & Addison Bradley, C. (2005). African American counselor educators' job satisfaction and perceptions of departmental racial climate. *Counselor Education and Supervision, 45*, 2-15. doi: 10.1002/j.1556-6978.2005.tb00126.x

Holmes, S. L., & Carroll, D. W. (2012). Social capital in HBCUs: Implications for

graduate students in the 21st century. In R. T. Palmer, A. A. Hilton, & T. P.

Fountaine (Eds), *Black Graduate Education at Historically Black Colleges and Universities* (pp. 167-183). Charlotte: Information Age Publishing, Inc.

Holmes, L. S., Ebbers, L. H., Robinson, D. C., & Mugenda, A. B. (2001). Validating African-American students at predominantly White institutions. *Journal of College Student Retention, 2*(1), 41-58. doi: 10.2190/XP0F-KRQW-F547-Y2XM

Hunn, L.R.M. (2008). Proof in the pudding: Does Guiffrida's cultural advancement of Tinto's theory apply to African American graduate students? *Journal of Ethnographic & Qualitative Research, 2*, 255-263. Retrieved from http://web.b.ebscohost.com.ezp3.lib.umn.edu/ehost/pdfviewer/pdfviewer?sid=ce8 20255-e674-44ed-85a4-d8b663f8b162%40sessionmgr113&vid=2&hid=118

Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behavior among college students. *Journal of Adolescent Health*, *46*, 3-10. doi: 10.1016/ j.jadohealth.2009.08.008

Hyun, J. K., Quinn, B. C., Madon, T., & Lustig, S. (2006). Graduate student mental health: Needs assessment and utilization of counseling services. *Journal of College Student Development, 47*, 247-266. doi: 10.1353/csd.2006.0030

Jairam, D., & Kahl, D. H. (2012). Navigating the doctoral experience: The roles of social support in successful degree completion. *International Journal of Doctoral Studies, 7*, 311-329. Retrieved from http://web.b.ebscohost.com.ezp3.lib.umn.edu

Johnson, J., Conrad, C., & Perna, L. (2006). Minority serving institutions of higher

education. In C. F. Conrad & R. C. Serlin (Eds.), *The Sage handbook for research in education* (pp. 263-277). Retrieved from http://books.google.com/books

Johnson-Bailey, J., Valentine, T. S., Cervero, R. M., & Bowles, T. A. (2008). Lean on me: The support experiences of Black graduate students. *Journal of Negro Education, 77,* 365-381. Retrieved from http://www.jstor.org.ezp3.lib.umn.edu /stable/25608705

Johnson-Bailey, J., Valentine, T., Cervero, R. M., & Bowles, T. A. (2009). Rooted in the soil: The social experiences of Black graduate students at a southern research university. *The Journal of Higher Education, 80,* 178-203. doi: 10.1353/jhe.0.0040

Joseph, J. (2012). From one culture to another: Years one and two of graduate school for African American women in the STEM fields. *International Journal of Doctoral Studies, 7,* 125- 142. Retrieved from http://web.b.ebscohost.com.ezp3.lib.umn.edu

Kim, M. M. (2002). Historically Black vs. White institutions: Academic development among Black students. *The Review of Higher Education, 25,* 385- 407. doi: 10.1353/rhe.2002.0019

Kim, M. M. (2004). The experience of African-American students in historically black institutions. *Thought & Action.* Retrieved from http://whp-template.nea.org/ assets/img/PubThoughtAndAction/TAA_04Sum_10.pdf

Kim, M. M., & Conrad, C. F. (2006). The impact of historically black colleges and universities on academic success of African American students. *Research in Higher Education, 47,* 399-427. doi: 10.1007/s11162-005-9001-4

134

King, S. E. (1994). A multicase study of African American doctoral degree recipients. *Equity & Excellence in Education, 27*, 53-61. doi: 10.1080/1066568940270210

Knight, L., Davenport, E., Green- Powell, P., & Hilton, A. A. (2012). The role of historically Black colleges or universities in today's higher education. *International Journal of Education, 4,* 223-235. doi: 10.5296/ije.v4i2.1650

Lett, D. F., & Wright, J. V. (2003) Psychological barriers associated with matriculation of African American students in predominately White institutions. *Journal of Instructional Psychology, 30*, 189-196. Retrieved from http://web.b.ebscohost.com.ezp3.lib.umn.edu

Lewis, C. W., Ginsberg, R., Davies, T., & Smith, K. (2004). The experiences of African American Ph.D. students at a predominately White Carnegie I-research institution. *College Student Journal*, *38*(2). Retrieved from http://web.b.ebscohost.com.ezp3.lib.umn.edu

Lomotey, K. (Ed.). (2010). *Encyclopedia of African American education.* Thousand Oaks, CA: SAGE Publications, Inc. doi: http://dx.doi.org/10.4135/ 9781412971966

Love, D. (2009). Student retention through the lens of campus climate, racial stereotypes, and faculty relationships. *Journal of Diversity Management, 4*, 21-26. Retrieved from http://journals.cluteonline.com/index.php/JDM/article/viewFile /4962/5054

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states:

Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour research and therapy, 33*, 335-343. doi: 10.1016/0005-7967(94)00075-U

Lovibond, S.H. & Lovibond, P.F. (1995). *Manual for the Depression Anxiety Stress Scales*. (2nd Ed). Sydney: Psychology Foundation.

Lovitts, B. E. (2001). *Leaving the Ivory Tower: The Causes and Consequences of Departure from Doctoral study.* Lanham, MD: Rowman and Littlefield.

Lundberg, C. A., & Schreiner, L. A. (2004). Quality and frequency of faculty-student interaction as predictors of learning: An analysis by student race/ethnicity. *Journal of College Student Development*, *45*, 549-565. doi: 10.1353/csd.2004.0061

Lundy- Wagner, V. C. (2012). Contributing beyond the baccalaureate: Graduate and professional degree programs at HCBUs. In R. T. Palmer, A. A. Hilton, & T. P. Fountaine (Eds), *Black Graduate Education at Historically Black Colleges and Universities* (pp. 25-39)*.* Charlotte: Information Age Publishing, Inc.

Lundy- Wagner, V., Vultaggio, J., & Gasman, M. (2013). Preparing underrepresented students of color for doctoral success: The role of undergraduate institutions. *International Journal of Doctoral Studies, 8*, 151-172. Retrieved from http://ijds.org/Volume8/IJDSv8p151-172Lundy-Wagner0381.pdf

Maton, K. I. (2008). Empowering community settings: Agents of individual development, community betterment, and positive social change. *American Journal of Community Psychology, 41*, 4-21. doi: 10.1007/s10464-007-9148-6

Maton, K. I., Wimms, H. E., Grant, S. K., Witting, M. A., Rogers, M. R., & Vasquez, M. J. T. (2011). Experiences and perspectives of African American, Latina/o, Asian American, and European American psychology graduate students: A national study. *Cultural Diversity and Ethnic Minority Psychology, 1*, 68-78. doi: 10.1037/a0021668

McGaskey, F. G. (2012). The potential benefits of attending historically Black colleges and universities for Black doctoral students. In R. T. Palmer, A. A. Hilton, & T. P. Fountaine (Eds), *Black Graduate Education at Historically Black Colleges and Universities* (pp. 83-104). Charlotte: Information Age Publishing, Inc.

Metz, G.W. (2005). Challenges and changes to Tinto's persistence theory. *Journal of College Student Retention, 6*, 191-207. doi: 10.2190/M2CC-R7Y1-WY2Q-UPK5

Meyers, L. S., Gamst, G., & Guarino, A. J. (2013). *Applied Multivariate Research: Design and Interpretation.* (2nd Ed.). Thousand Oaks, CA: Sage.

Miller, J. K., & Stone, D. J. (2011). Voices of family therapy doctoral students of color: Aspirations and factors influencing careers in academia. *Journal of Multicultural Counseling and Development, 39*, 101-113. doi: 10.1002/j.2161-1912.2011.tb00144.x

Minor, J. (2008). A contemporary perspective on the role of HBCUs: Perspicacity from Mississippi. *The Journal of Negro Education, 77*, 323-335. Retrieved from http://www.jstor.org.ezp3.lib.umn.edu/stable/25608702

Murtadha, K., & Watts, D. M. (2005). Linking the struggle for education and social

justice: Historical perspectives of African American leadership in schools. *Educational Administration Quarterly, 41*, 591-608. doi: 10.1177/0013161X04274271

Nettles, M. T., & Millett, C. M. (2006). *Three magic letters: Getting to PhD*. Baltimore: The John Hopkins University Press.

Nickerson, K. J., Helms, J. E., & Terrell, F. (1994). Cultural mistrust, opinions about mental illness, and Black students' attitudes toward seeking psychological help from White counselors. *Journal of Counseling Psychology, 41*, 378-385. doi: 10.1037/0022-0167.41.3.378

Norton P. J. (2007). Depression anxiety and stress scales (DASS-21): Psychometric analysis across four racial groups. *Anxiety, Stress & Coping, 20*, 253-265. doi: 10.1080/10615800701309279

Nunnally, J. C. (1978). *Psychometric Theory.* (2nd ed.). New York: McGraw-Hill.

Outcalt, C. L., & Skewes-Cox, T. E. (2002). Involvement, interaction, and satisfaction: The human environment at HBCUs. *The Review of Higher Education, 25*, 331-347. doi: 10.1353/rhe.2002.0015

Owen, S.V., & Froman, R.D. (1988). Development of a College Academic Self-Efficacy Scale. (Report No. TM 012 263). East Lansing, MI: National Center for Research on Teacher Learning. (ERIC Document Reproduction Service No. ED298158)

Palmer, R.T. (2012). An exploratory study of factors that influence Black students to attend historically Black colleges and universities for graduate school. In R. T. Palmer, A. A. Hilton, & T. P. Fountaine (Eds), *Black Graduate Education at*

Historically Black Colleges and Universities (pp. 133-151)*.* Charlotte:

Information Age Publishing, Inc.

Palmer, R. T., Hilton, A. A., & Fountaine, T. P. (2012). *Black Graduate and Education at*

Historically Black Colleges and Universities: Trends, Experiences, and

Outcomes. Charlotte: Information Age Publishing, Inc.

Palmer, R. T., Maramba, D. C., & Lee, J. M. (2010). Investigating Black students'

disinclination to consider and attend historically Black colleges and universities

(HBCUs). *National Association of Student Affairs Professionals Journal, 13*, 23-

45. Retrieved from http://works.bepress.com.ezp3.lib.umn.edu/robert_palmer/23/

Paradies, Y. (2006). A systematic review of empirical research on self-reported racism

and health. *International Journal of Epidemiology, 35*, 888-901. doi:

10.1093/ije/dyl056

Pascarella, E., & Terenzini, P. (1977). Patterns of student-faculty informal interaction

beyond the classroom and voluntary freshman attrition. *Journal of Higher*

Education, 48, 540-552. doi: 10.2307/1981596

Pascerella, E. T., & Terenzini, P. T. (1980). Predicting freshman persistence and

voluntary dropout decisions from a theoretical model. *Journal of higher*

education, 51, 60-75. doi: 10.2307/1981125

Pascerella, E.T., & Terenzini, P. T. (1983). Predicting voluntary freshman year

persistence/withdrawal behavior in a residential university: A path analytic

validation of Tinto's model. *Journal of educational psychology, 75*, 215-226. doi:

0.1037/0022-0663.75.2.215

139

Patton, L. D. (2009). My sister's keeper: A qualitative examination of mentoring

experiences among African American women in graduate and professional

schools. *The Journal of Higher Education, 80*, 510-537. doi: 10.1353/jhe.0.0062

Patton, L. D., Bridges, B. K., & Flowers, L. A. (2011). Effects of Greek affiliation on

African American students engagement: Differences in racial composition.

College Student Affairs Journal, 29, 113-123. Retrieved from

http://works.bepress.com.ezp3.lib.umn.edu/loripattondavis/18/

Perna, L.W. (2001). The contribution of historically Black colleges and universities to

the preparation of African Americans for faculty careers. *Research in Higher

Education, 42*, 267-294. Retrieved from

http://link.springer.com.ezp3.lib.umn.edu/article/10.1023/ A:1018869922415

Perna, L., Lundy-Wagner, V., Drezner, N. D., Gasman, M., Yoon, S., Bose, E., & Gary,

S. (2009). The contribution of HBCUs to the preparation of African American

women for STEM careers: A case study. *Research in Higher Education*, *50*, 1-23.

doi: 10.1007/s11162-008-9110-y

Peter, J. P. (1981). Construct validity: a review of basic issues and marketing practices.

Journal of Marketing Research ,18, 133-145. doi: 10.2307/3150948

Pieterse, A. L., Todd, N. R., Neville, H. A., & Carter, R. T. (2012). Perceived racism and

mental health among Black American adults: A meta-analytic review. *Journal of

Counseling Psychology*, *59*, 1-9. doi: 10.1037/a0026208

Polgar, P. J. (2011). "To raise them to an equal participation" Early national abolitionists,

gradual emancipation, and the promise of African American citizenship. *Journal of the Early Republic, 31*, 229-258. doi: 10.1353/jer.2011.0023

Provasnik, S., Shafer, L., & Snyder, T. D. (2004). *Historically Black colleges and universities, 1976 to 200* (NCES 2004-062). US Department of Education, National Center for Education Statistics. Washington, DC: Government Printing Office.

Purdie-Vaughns, V., Steele, C. M., Davies, P. G., Ditlmann, R., & Crosby, J. R. (2008). Social identity contingencies: How diversity cues signal threat or safety for African Americans in mainstream institutions. *Journal of personality and social psychology, 94*, 615- 630. doi: 10.1037/0022-3514.94.4.615

Rankin, S. R., & Reason, R. D. (2005). Differing perceptions: How students of color and White students perceive campus climate for underrepresented groups. *Journal of College Student Development, 46*, 43-61. doi: 10.1353/csd.2005.0008

Rastogi, S., Johnson, T. D., Hoeffel, E. M., & Drewery, Jr., M. P. (September 2011). *The Black population: 2010.* Retrieved November 23, 2012, from http://www.census.gov/prod/cen2010/briefs/c2010br-06.pdf.

Reason, R. D., Terenzini, P. T., & Domingo, R. J. (2006). First things first: Developing academic competence in the first year of college. *Research in Higher Education, 47*, 149-175. doi: 10.1007/s11162-005-8884-4

Redd, K. E. (2008). *Data Sources: Trends in graduate enrollment and doctoral degrees at historically Black colleges and universities, 1996 to 2006.* CGSnet.org. Washington, DC: Council of Gradate Schools.

Rodgers, K. A., & Summers, J. J. (2008). African American students at predominately

    White institutions: A motivational and self-systems approach to understanding

    retention. *Educational Psychology Review, 20*, 171-190. doi: 10.1007/s10648-

    008-9072-9

Schmitt, N. (1996). Uses and abuses of coefficient alpha. *Psychological assessment, 8*,

    350-353. doi: 10.1037/1040-3590.8.4.350

Schwartz, R. A., Bower, B. L., Rice, D. C., & Washington, C. M. (2003). "Ain't I a

    woman, too?": Tracing the experiences of African American women in graduate

    school. *Journal of Negro Education, 72*, 252-268. doi: 10.2307/3211247

Sellers, R. M., Caldwell, C. H., Schmeelk-Cone, K. H., & Zimmerman, M. A. (2003).

    Racial identity, racial discrimination, perceived stress, and psychological distress

    among African American young adults. *Journal of Health and Social Behavior,*

    43, 302-317. doi: 10.2307/1519781

Smith, A. W. (1988). In double jeopardy: Collegiate academic outcomes of Black

    females vs. Black males. *National Journal of Sociology, 2*, 3-33.

Smith, H. M., & Betz, N. E. (2000). Development and validation of a scale of perceived

    social self-efficacy. *Journal of Career Assessment, 8*, 283-301. doi:

    10.1177/106907270000800306

Solorzano, D., Ceja, M., & Yosso, T. (2000) Critical race theory, racial microaggressions,

    and campus racial climate: The experiences of African American college students.

    The Journal of Negro Education, 69(1/2), 60-73. Retrieved from

    http://sites.tufts.edu/diversitydialogues/files/2010/12/Solorzano2000.pdf

Spaualding, L.S., & Rockinson-Szapkiw, A. J. (2012). Hearing their voices: Factors

    doctoral candidates attribute to their persistence. *International Journal of*

    Doctoral Studies, 7, 199- 219. Retrieved from http://ijds.org

Steele, C. M. (1997). A threat in the air: How stereotypes shape intellectual identity and

    performance. *American Psychologist, 52*, 613–629. doi: 10.1037/0003-

    066X.52.6.613

Strayhorn, T. L. (2008). Influences on labor market outcomes of African American

    college graduates: A national study. *The Journal of Higher Education*, *79*, 28-57.

    doi: 10.1353/jhe.2008.0003

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International*

    Journal of Medical Education, 2, 53-55. doi: 10.5116/ijme.4dfb.8dfd

Taylor, M. C. (2012). On a wing and a prayer: The future of graduate education at

    HBCUs. In R. T. Palmer, A. A. Hilton, & T. P. Fountaine (Eds), *Black Graduate*

    Education at Historically Black Colleges and Universities (pp. 223- 252).

    Charlotte: Information Age Publishing, Inc.

Terenzini, P., & Pascarella, E. (1977). Voluntary freshman attrition and patterns of social

    and academic integration in a university: A test of a conceptual model. *Research*

    in Higher Education, 6, 25-43. doi: 10.1007/BF00992014

Terenzini, P., & Pascarella, E. (1978). The relation of students' pre-college characteristics

    and freshman year experience to voluntary attrition. *Research in Higher*

    Education, 9, 347-366. doi: 10.1007/BF00991406

Terenzini, P. T., Yaeger, P. M., Bohr, L., Pascarella, E. T., & Amaury, N. (1997, May).

African American College Students' Experiences in HBCUs and PWIs and

Learning Outcomes presented at the annual meeting of the Association for

Institutional Research, Orlando, FL.

Thomas, K. M., Willis, L. A., & Davis, J. (2007). Mentoring minority graduate students:

Issues and strategies for institutions, faculty, and students. *Equal Opportunities*

International, 26, 178-192. doi: 10.1108/02610150710735471

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent

research. *Review of Educational Research, 45*, 89-125. Retrieved from

http://rer.sagepub.com.ezp3.lib.umn.edu/content/45/1/89.full.pdf

Tinto, V. (1988). Stages of student departure: Reflections on the longitudinal character of

student leaving. *The Journal of Higher Education, 59*, 438-455. doi:

10.2307/1981920

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition.*

(2nd ed.).Chicago: University of Chicago Press

Torres, L., Driscoll, M. W., & Burrow, A. L. (2010). Racial microaggressions and

psychological functioning among highly achieving African-Americans: A mixed-

methods approach. *Journal of Social and Clinical Psychology, 29*, 1074-1099.

doi: 10.1521/jscp.2010.29.10.1074

Uqdah, A. L., Tyler, K. M., & DeLoach, C. (2009). Academic attitudes and

psychological well-being of Black American psychology graduate students. *The*

Negro Educational Review, 60, 23-39. Retrieved from ebscohost.com

U.S. Department of Education. (2011). National Center for Education Statistics.

Integrated Postsecondary Education Data System (IPEDS). Washington, DC: U.S. Department of Education, Institute of Education Sciences.

Van Camp, D., Barden, J., & Sloan, L. R. (2010). Predictors of Black students' race-related responses for choosing an HBCU and intentions to engage in racial identity-relevant behaviors. *Journal of Black Psychology, 36*, 226-250. doi: 10.1177/0095798409344082

Watson, L. W., & Kuh, G. (1996). The influence of dominant race environments on student involvement, perceptions, and educational gains: A look at historically Black and predominantly White liberal arts institutions. *Journal of College Student Development, 37*, 415–424.

Wei, M., Ku, T., Liao, K. Y. (2011). Minority stress and college persistence attitudes among African American, Asian American, and Latino students: Perception of university environment as a mediator. *Cultural Diversity and Ethnic Minority Psychology, 17*, 195-203. doi: 10.1037/a0023359

Williams, D. R., & Williams-Morris, R. (2000). Racism and mental health: The African American experience. *Ethnicity and Health, 5*, 243-268. doi: 10.1080/713667453

Williamson, J. A. (1999). In defense of themselves: The Black student struggle for success and recognition at predominately White colleges and universities. *Journal of Negro Education, 68*, 92-105. doi: 10.2307/2668212

Wilson, V. R. (2007). The effect of attending an HBCU on persistence and graduation outcomes of African–American college students. *The Review of Black Political Economy, 34*, 11-52. doi: 10.1007/s12114-007-9006-7

Woodson, C. G. (1919). *The Education of the Negro Prior to 1861: A History of the Education of the Colored People of the United States from the Beginning of Slavery to the Civil War*. [Google Books version] Retrieved from http://books.google.com/books

Appendix A

Emails sent to listservs at participating institutions

Initial Email:

Hello,
My name is Marcuetta Williams and I am a doctoral candidate at the University of Minnesota. I'm writing to seek advice about how to best recruit Black doctoral students at your institution to participate in my dissertation study. My research focuses on the experiences of Black Doctoral Students at research intensive universities, and I'm focusing my efforts on universities that are members of the Big 10 (now 15!) institutions.

As a Black doctoral student myself, I'm well aware that there are relatively few Black doctoral students on each of the Big 10 campuses. I want to be sure to target my efforts so that I am successful. In addition, Black graduate students are sorely underrepresented in training and education literature, and I am looking to fill that gap. I am hoping that the Black Graduate and Professional Student Association can be of assistance.

I will begin distributing a survey in 2 weeks, including {name of institution}. I would like to distribute the survey electronically. If you could provide any information about relevant listservs, organizations, or people that I might contact that might have this information that would be extremely helpful. If it would be easier to talk over the phone, I would be happy to contact you at your convenience.
I truly appreciate any assistance you can provide. Thank you very much.

Follow Up Email:

Are you a Black Doctoral Student? My name is Marcuetta Williams, and I am a Black doctoral candidate in Counseling and Student Personnel Psychology at the University of Minnesota. I am conducting my dissertation research on the graduate school experiences of Black doctoral students. Studies of this kind offer great insight into how institutions can better support and retain their
graduate students. Unfortunately, African Americans are sorely underrepresented in this area of research. Therefore, your input is very valuable! As a fellow graduate student, I know how valuable your time is. I anticipate that conducting this survey online should only take 20-30 minutes or less to
complete. Participation is completely voluntary and you may withdraw your participation at any time. Additionally, to show my appreciation for your time, you will be entered into a raffle to win one of twenty $100 gift cards. To review the informed consent and complete the online questionnaires, please click on the following link:

Take Survey!!

All your information will remain anonymous. You will have the option of providing your email address at the completion of the survey in order to be entered in the raffle and to receive your gift card. Your email address will only be used for the raffle and to send your gift card. Only myself will have access to this information and it will be deleted immediately following the distribution of awards. I greatly appreciate your participation in this dissertation study and would be happy to send you the results upon completion. Please feel free to forward this recruitment notice to other African American graduate students at your institution.

If you have any questions regarding this research, please feel free to contact me at will3312@umn.edu.

This research has been approved by the Internal Review Board (IRB) at the University of Minnesota.

Appendix B

Facebook Posting

Are you a Black Doctoral Student? My name is Marcuetta Williams, and I am a Black doctoral candidate in Counseling and Student Personnel Psychology at the University of Minnesota. I am conducting my dissertation research on the graduate school experiences of Black doctoral students. Studies of this kind offer great insight into how institutions can better support and retain their
graduate students. Unfortunately, African Americans are sorely underrepresented in this area of research. Therefore, your input is very valuable! As a fellow graduate student, I know how valuable your time is. I anticipate that conducting this survey online should only take 20-30 minutes or less to
complete. Participation is completely voluntary and you may withdraw your participation at any time. Additionally, to show my appreciation for your time, you will be entered into a raffle to win one of twenty $100 gift cards. To review the informed consent and complete the online questionnaires, please click on the following link:

Take Survey!!

All your information will remain anonymous. You will have the option of providing your email address at the completion of the survey in order to be entered in the raffle and to receive your gift card. Your email address will only be used for the raffle and to send your gift card. Only myself will have access to this information and it will be deleted immediately following the distribution of awards. I greatly appreciate your participation in this dissertation study and would be happy to send you the results upon completion. Please feel free to forward this recruitment notice to other African American graduate students at your institution.

If you have any questions regarding this research, please feel free to contact me at will3312@umn.edu.

This research has been approved by the Internal Review Board (IRB) at the University of Minnesota.

Appendix C

Informed Consent

Consent Form
Undergraduate Institution (HBCU or PWI), Academic/Social Integration and Mental
Health of African American Doctoral Students

You are invited to participate in a research study of African American graduate students'
experiences in doctoral programs and the resulting impact on mental health outcomes.
You were selected as a possible participant because you identified as an African
American doctoral student. I ask that you read this form and ask any questions you may
have before agreeing to be in the study.

This study is being conducted by: Marcuetta Williams, M.A., Counseling and Student
Personnel Psychology, University of Minnesota-Twin Cities.

Background Information

The purpose of this study is to explore factors related to African American doctoral
students' experiences in graduate school at large research intensive institutions, and to
understand how these experiences are related to African American graduate students'
mental health.

Procedures:

If you agree to participate, you will be asked to complete several questionnaires
concerning (1) your perceptions of your undergraduate educational experiences and how
these are related to your experiences of being an African-American doctoral student in
graduate school at a research- intensive institution, and (2) indicators of those aspects of
your mental health that enhance your ability to approach your education in positive and
creative ways. These surveys should take no more than 20-30 minutes to complete,
although they are not timed, and you can take longer if you want to.

Risks and Benefits of being in the Study

There is minimal psychological risk in this study. I anticipate that you will experience no
more stress than you would experience during the course of a normal activity on a normal
day. However, if you do experience stress, and feel you need assistance, please contact
your on-campus counseling center. You may also contact me for a list of local mental
health agencies at will3312@umn.edu.

Your participation in this study is voluntary. There is no direct benefit to participating in this research. You will also benefit by being prompted to think about your educational processes in general and how you can better maximize your educational opportunities. Additionally, you will contribute to scientific knowledge regarding African American doctoral students' experiences in graduate school at research-intensive institutions. Your participation will increase scientific knowledge regarding African American doctoral student mental health while in graduate school.

Compensation:

If you choose to participate in this study, you have the possibility of receiving one of twenty $100 gift cards. Every participant to complete the survey will have their email address entered in a raffle for the chance to win. If you win a gift card, it will be sent electronically to the email address you provided. At the conclusion of the raffle, all e-mail addresses collected for this purpose will be deleted.

Confidentiality:

The records of this study will be kept private. In any sort of report we might publish, we will not include any information that will make it possible to identify you as one of the participants. The identifying information that will be collected will be stored separately from the responses to the surveys. Research records will be stored securely and only researchers will have access to the records. Study data will be encrypted according to current University policy for protection of confidentiality.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota, the study investigator, or any other entities. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Completing the survey implies that you consent to this study.

Contacts and Questions:

The researcher conducting this study is Marcuetta Williams. Her research advisor is Dr. Sherri Turner. If you have questions about the study, you are encouraged to contact Ms. Williams at will3312@umn.edu for clarification. You may also contact Dr. Turner at turne047@umn.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher or her advisor, **you are encouraged** to contact the

Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

Appendix D

Demographic Questionnaire

1. What is your age? ____

2. What is your gender? ___Male ____Female ____Other Please explain _____

3. Which of the following best represents your racial background? Please select all

   that apply.

   ____ African American or Black ___Asian American

   ____ European American or White ____Hispanic or Latino

   ____Native American _____International Please Explain _____

   ____Other Please Explain_____

4. What is your current graduate institution?

University of Chicago	Northwestern University
University of Illinois-	Ohio State University
Urbana Champaign	Pennsylvania State
Indiana University	University
University of Iowa	Purdue University
University of Michigan	University of Wisconsin-
Michigan State	Madison
University	University of Maryland
University of Minnesota	Rutgers University
University of Nebraska-	Other
Lincoln	

5. What year are you in your Doctoral Program?

   ___1st Year ___2nd Year ___3rd Year___4th Year___5th Year___6+ Year

6. What Doctoral Degree are you pursuing?

   ___Ph.D. ____Psy. D. ___Ed. D.

7. What type of program are you pursuing your doctoral degree in?

(for example, Mathematics, Engineering, Psychology, History, etc.)

8. Did you attend a Historically Black College or University (HBCU) for your

   undergraduate education? ___Yes ____No ____Not sure

9. What was the name of your undergraduate institution? _____

10. What type of undergraduate degree did you obtain?
    (for example, B.A. in Psychology, B.S. in Chemistry)

11. How confident are you that you will obtain your doctoral degree in a timely
    manner?

    ____Definitely will not
    ____Probably will not
    ____Don't know
    ____Probably will
    ____Definitely Will

Appendix E

Depression, Anxiety, and Stress Scale (DASS; S.H. Lovibond & Lovibond, 1995)

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you *over the past week.* There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:
0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree, or a good part of time
3 Applied to me very much, or most of the time

1 I found myself getting upset by quite trivial things 0 1 2 3
2 I was aware of dryness of my mouth 0 1 2 3
3 I couldn't seem to experience any positive feeling at all 0 1 2 3
4 I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion) 0 1 2 3
5 I just couldn't seem to get going 0 1 2 3
6 I tended to over-react to situations 0 1 2 3
7 I had a feeling of shakiness (eg, legs going to give way) 0 1 2 3
8 I found it difficult to relax 0 1 2 3
9 I found myself in situations that made me so anxious I was most relieved when they ended 0 1 2 3
10 I felt that I had nothing to look forward to 0 1 2 3
11 I found myself getting upset rather easily 0 1 2 3
12 I felt that I was using a lot of nervous energy 0 1 2 3
13 I felt sad and depressed 0 1 2 3
14 I found myself getting impatient when I was delayed in any way (eg, lifts, traffic lights, being kept waiting) 0 1 2 3
15 I had a feeling of faintness 0 1 2 3
16 I felt that I had lost interest in just about everything 0 1 2 3
17 I felt I wasn't worth much as a person 0 1 2 3
18 I felt that I was rather touchy 0 1 2 3
19 I perspired noticeably (eg, hands sweaty) in the absence of high temperatures or physical exertion 0 1 2 3
20 I felt scared without any good reason 0 1 2 3
21 I felt that life wasn't worthwhile 0 1 2 3
22 I found it hard to wind down 0 1 2 3
23 I had difficulty in swallowing 0 1 2 3
24 I couldn't seem to get any enjoyment out of the things I did 0 1 2 3
25 I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat) 0 1 2 3

26 I felt down-hearted and blue 0 1 2 3
27 I found that I was very irritable 0 1 2 3
28 I felt I was close to panic 0 1 2 3
29 I found it hard to calm down after something upset me 0 1 2 3
30 I feared that I would be "thrown" by some trivial
but unfamiliar task 0 1 2 3
31 I was unable to become enthusiastic about anything 0 1 2 3
32 I found it difficult to tolerate interruptions to what I was doing 0 1 2 3
33 I was in a state of nervous tension 0 1 2 3
34 I felt I was pretty worthless 0 1 2 3
35 I was intolerant of anything that kept me from getting on
with what I was doing 0 1 2 3
36 I felt terrified 0 1 2 3
37 I could see nothing in the future to be hopeful about 0 1 2 3
38 I felt that life was meaningless 0 1 2 3
39 I found myself getting agitated 0 1 2 3
40 I was worried about situations in which I might panic and
make a fool of myself 0 1 2 3
41 I experienced trembling (eg, in the hands) 0 1 2 3
42 I found it difficult to work up the initiative to do things 0 1 2 3