

Graduate Students of Color at PWIs: School Belonging, Ethnic Identity and Mental Health

by

Claudia Calder

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To be Approved by

Chippewa Thomas, Chair, Associate Professor of Counselor Education
Malti Tuttle, Co-chair, Assistant Professor of Counselor Education
Evelyn Hunter, Assistant Professor of Counseling Psychology
Kamden Strunk, Assistant Professor of Educational Research

Abstract

This study sought to explore the perceived sense of belonging of graduate Students of Color who attend Predominantly White Institutions (PWIs). Utilizing Baumeister & Leary's, (1995) belongingness hypothesis as a foundation, this research was guided by the premise that perceived sense of belonging is related to mental health outcomes for Students of Color at PWIs, and that alignment with ethnic identity is an important factor. The purpose of this study is (a) to determine whether there is a relationship between Sense of Belonging (as measured by Antecedent and Psychological state), student alignment with Ethnic Identity (as measured by exploratory and commitment), Depression, Anxiety, and Stress for Graduate Students of Color 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 219 graduate Students of Color from PWIs across the United States completed a demographic survey, the Multigroup Ethnic Identity Measure-Revised (MEIM-R; Phinney & Ong, 2007), the Sense of Belonging Instrument (SOBI; Hagerty et al., 1996) and the Depression Anxiety Stress Scale (DASS; Lovibond & Lovibond, 1995). Analyses conducted in this study included canonical correlational and MANOVA. Results of the canonical correlational analyses yielded three functions. The first function accounted for about 87% of the explained variance and was statistically significant. The second function accounted for about 12% of the explained variance. The final function accounted for only about 1% of the explained variance and was not statistically significant. Results of the MANOVA showed that gender, current graduate level and type of undergraduate institution were not significant factors in differences between Sense of Belonging, Depression, Anxiety, and

Stress for this sample of Graduate Students of color at PWIs. Clinical implications and areas for future research are also described.

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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.

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

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Chapter I.

Introduction

Minority students have historically been faced many forms of rejection and isolation at Predominantly White Institutions (PWIs), particularly during the early years of academic integration (Allen, 1992; Mendoza et al., 2002). The first African American to receive a doctoral degree was Edward A. Bouchet, who graduated from Yale University in 1876 (Bridglall & Gordon, 2004). One can only imagine the obstacles he encountered while progressing through this institution's graduate program, shortly after the abolition of slavery. Over a century later, Students of Color continue to experience and overcome challenges associated with feeling isolated and rejected in a variety of different settings, particularly true in institutions of higher learning, which is a setting where Students of Color have been historically limited (Hubain, Allen, Harris, & Linder, 2016; Jones, Castellanos & Cole, 2002). Experiencing isolation and rejection can contribute significantly to students' ability to succeed in the face of challenges and can also greatly impact students' mental health. For these reasons, the exploration of graduate Students of Color's perceived sense of belonging to an institution, based on their alignment with their ethnic identity and how perceived belonging influence student's experiences of symptoms associated with depression, anxiety, and stress is an area that warrants further examination.

Historical Context

The completion of a graduate degree has represented the pinnacle of educational attainment. Higher education, in both historical and contemporary contexts, is viewed as the portal through which racial pride (Murtadha & Watts, 2005), upward mobility (Cole & Omari, 2003), and community empowerment (Maton, 2008) can be attained. Throughout the history of the United States, people of Color have been oppressed. Learning to read and write bestowed

certain privileges for enslaved Black people during the period of enslavement. Having these abilities offered enslaved people the opportunity to expand their own powers despite the literacy being seen as the proverbial ‘forbidden fruit’ (Cornelius, 1983; Woodson, 1919). Literate enslaved people were able to 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).

From the period of emancipation through Reconstruction in the South, a major federal thrust focused on upliftment of the Black community and integration of Black people into a segregated society (Polgar, 2011). During this time, there were a few Predominantly White Institutions (PWIs) that educated people of color, particularly Black students. Thus, the majority of the 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 before 1964 (Lomotey, 2010). Since access to higher education was limited for minoritized students, HBCUs, Minority Serving Institutions (MSI), Hispanic Serving Institutions (HSI) and Native American Serving institutions (NASIs) were founded. These institutions developed as a means of educating minoritized individuals primarily undergraduates. 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). During the current era of post-desegregation of the educational system (e.g., *Brown v. Board of Education*, 1954),

questions have been raised about the necessity and relevance 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 Students of Color (Harper, Patton, & Wooden, 2009).

Campus Environment

Institutions of higher education were historically designed for the dominant culture in American society, specifically White upper-class men. However, the demographics of students who pursue higher education, particularly those pursuing graduate degrees have changed dramatically. For instance, Okahana and Zhou (2018) conducted the Council of Graduate Schools (CGS) and the Graduate Record Examinations (GRE) Board Survey of Graduate Enrollment and Degrees highlighting enrollment changes between Fall 2007 and Fall 2017. They showed that first-time graduate enrollment from 2016 to 2017 increased 8.1% among Hispanic/Latinos, 3.3% among Black/African Americans, and 4.6% among Asian/Pacific Islanders, while it declined 1.9% among American Indian/Alaska Natives.

There is still, however, the question of whether these institutions have the flexibility to be aligned with the norms, values, and expectations of minoritized students is still an area of concern. As mentioned in the section above, HBCUs, MSIs, HSIs, and NASIs were designed to meet the needs of various minority groups (Gasman, Baez, & Turner, 2008; Li, 2007). 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 mind, these students prepare for an educational journey that often has more roadblocks than originally anticipated. Students of color are commonly met with discrimination in many forms (Allen, 1991; Nettles, 1988), which greatly impact their social engagement and often times their

academic ability (Jones, Castellanos & Cole, 2002). Gaining a better understanding of how institutions can make their environment more inclusive and more welcoming for 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 minoritized 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 unsatisfactory service also negatively impact Students of Color chances of utilizing mental health services (Jones et al., 2015; 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. Researchers have found that racism and discrimination impact psychological (Pieterse, et al. 2012) and physical wellbeing (Paradies, 2006). For students, racism and discrimination impacts their abilities to perform academically and increases their anxieties about outcomes in future environments (Harrison, Stevens, Monty & Coakley, 2006). In general, continuous oppression because of the racial group a person belongs to results in the world not feeling safe (Purdie-Vaughns, Steele, Davies, Dittmann & Crosby, 2008) and often leads to feeling a sense of hopelessness and despair about the future (Combs et al., 2006) for people of Color. When considering the role that the institution can play in increasing depression, anxiety, and stress, there must be an exploration of the issues related to discrimination and racism that are not being addressed by institutions of higher education. Assessment of this information can offer information about the different kinds of support that can and should be implemented in order to assist Students of Color increase their sense of belonging to these

institutions and more successfully progress in their educational endeavors. Understanding the experience of graduate Students of Color and their mental health will be a significant factor in informing the educational systems at PWIs graduate students.

Statement of Problem and Significance

Despite decades of systematic barriers that have hindered the educational achievement of many Students of Color (Feagin, 2002; Rendon, Jalomo & Nora, 2000), graduate programs have seen an increase in enrollment among ethnic minority students, with underrepresented minority students making up 23.4 percent of first-year graduate student populations in the Fall of 2017, including American Indian/Alaska Native (0.5%), Black/African American (11.9%), Native Hawaiian/Other Pacific Islander (0.2%), and Hispanic/Latino (11.3%) (Okahana & Zhou, 2018). However, students are faced with many obstacles, including, academic difficulties, financial constraints, and social and psychological challenges. Discomfort with campus life and lack of connectedness or sense of belonging is one factor that connects to reported obstacles. Specifically, students from ethnic minority background report worse psychological adjustment in college compared to their White counterparts (Smith, Chesin, & Jeglic, 2014).

Researchers have found that Students of Color experience higher levels of isolation and exclusion during their graduate training programs at PWIs (Johnson-Bailey et al., 2008; Hubain et al., 2016). One reason may be the difference in how students experience HBCU and PWI environment as graduate students. For instance, Jones, Castellanos & Cole (2002) conducted a qualitative study to examine the experiences of ethnic minority students at a PWI and many of the students reported a lack of support for diversity, unwelcoming environment and addressed the lack of representation of Students of Color on campus. Additionally, there is literature and statistical data that suggest that PWIs do not retain Black 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). Feeling a sense of belonging and connectedness to an institution has been theoretically and empirically linked to persistence and institutional satisfaction in higher education (Astin, 1993; Pascarella & Terenzini, 2005). Existing research suggests that sense of belonging is a vital foundation for students' academic, social and psychological outcomes (Hagerty et al., 1996; Hausmann, Schofield, & Woods, 2007; Ostrove & Long, 2007). Among Students of Color, a sense of belonging and ethnic identity are the two factors related to belonging to a group (Gummadam, Pittman, & Ioffe, 2016; Maramba & Velasquez, 2012; Museus, Yi & Saelua, 2017;;Pittman & Richmond, 2007). Conversely, perceived lack of a sense of belonging and experiences of discrimination can have an adverse effect on students' psychological well-being, as it related to experiencing symptoms related to depression and anxiety (Hagerty et al., 1996; Pittman & Richmond, 2007).

Considering that possessing a sense of belonging and being a part of a supportive institutional environment is essential to psychological health, Students of Color could experience a disadvantage in settings where they are under-represented. Understanding how minoritization based on ethnic identity impacts Students of Color sense of belonging and being aware of the psychosocial experience by a lack thereof, can provide insight as to what is needed for graduate Students of Color to overcome obstacles faced during their matriculation. This is especially important at PWIs because researchers have shown that Students of Color, specifically Black students at these institutions have lower psychosocial adjustment to these campus environments than their Black counterparts at HBCUs (Fleming, 1984; Gurin & Epps, 1975; Nettles, 1988; Maramba & Velasquez, 2012; Museus, Yi & Saelua, 2017).

Higher education research related to sense of belonging indicates that a sense of belonging to the institution plays a role in academic, social and psychological outcomes (Ostrove & Long, 2007; Hausmann, Schofield, & Woods, 2007; Hagerty et al., 1996). The current study asserts that examination of the occurrence of sense of belonging has important implications for clinicians who may work with students in counseling and apply multicultural skills in so doing. By examining the relationship between the perceived sense of belonging and psychological outcomes among Students of Color, information about these occurrences are added to the mental health and counseling literature. In so doing, the research helps counselors and counselor educators further understand the intricacies of the lived experiences of Students of Color on which to develop appropriate multicultural counseling interventions to use with clients of color. Implications related to exploring sense of belonging in graduate Students of Color highlights that opportunities exist to utilize existing as well as develop innovative multicultural counseling and teaching approaches that facilitate a sense of belonging for Students of Color.

Purpose of the study

Research on sense of belonging has suggested that students who perceive a sense of belonging to their institutions report higher levels of happiness, enjoyment, and enthusiasm, whereas students who perceive a lack of sense of belonging report great anxiety and sadness during academic engagements (Furrer & Skinner, 2003). Moreover, research suggests that ethnic minority college students' ethnic identity is associated with psychological outcomes. Positing that minority students with strong ethnic identity report better overall psychological outcomes, while minority students with a less-well-defined ethnic identity report experiencing symptoms related to anxiety and depression (Phinney & Alipuria, 1990; St. Louis & Liem, 2005; Yip, Seaton, & Sellers, 2006; Brittan et al., 2013). Both sense of belonging and ethnic identity is

linked with psychological outcomes. However, there is a lack of research exploring the interaction of both constructs.

Given the potential importance of students perceived sense of belonging on mental health among graduate Students of Color, and the sparse literature in this area; and given the equally sparse literature in examining how student's ethnic identity factors in their perceived sense of belonging and the differences between students who attend HBCUs and those who attend PWIs as undergraduates in relationship to the variables in question. This study is designed to investigate these relationships and the specific experiences of Graduate Students of Color. The purpose of this study is to quantitatively examine and explore (a) the relationships between Sense of Belonging, Ethnic Identity and Depression, Anxiety, and Stress for Graduate Students of Color and (b) whether students' alignment with type of undergraduate institutions (HBCUs or PWIs) impact perceived sense of belonging, and Depression, Anxiety, and Stress.

Research Questions

1. Is there a relationship between Sense of Belonging (as measured by Antecedent and Psychological state), alignment with Ethnic identity (as measured by exploratory and commitment) and Depression, Anxiety, and Stress for Graduate Students of Color at PWIs?
2. Are there differences in Sense of Belonging, Depression, Anxiety, and Stress for Graduate Students of Color at PWIs as a function of types of undergraduate institution, gender, and graduate level (i.e., master or doctoral)?

Hypotheses

I. There will be a significant relationship between Sense of Belonging (as measured by Antecedent and Psychological state), Ethnic Identity and Depression, Anxiety, and Stress for Graduate Students of Color at PWIs.

II. There would be a significant difference in Sense of Belonging, Depression, Anxiety, and Stress, as a function of the type of undergraduate institution attended gender, and graduate level.

Definition of Terms

In this section, various key terms referenced throughout this paper are defined. It is important to note is that these terms have been described in various ways across the literature; therefore, the descriptions provided below situate how these terminologies are operationally defined to best reflect the goals of this dissertation.

- ***Graduate Students of Color***: Students pursuing a masters or doctoral degree that self-identify as an ethnic minority (i.e., Hispanic, Black, Asian, Native American)
- ***Predominately White Institutions***: PWIs in this study is operationally defined as institutions in which the majority of the student population has been and continues to be attended by predominantly White students. Brown and Dancy (2016) defined PWIs as postsecondary institutions in which the enrollment of White individuals constitutes 50% or more of the student population.
- ***Sense of Belonging***: For the purposes of this study, Baumeister and Leary (1995) definition for belonging was adopted, this suggests that the need to belong is characterized by a

need for constant contact and the perception that interpersonal relationships are stable and ongoing. Throughout this paper, sense of belonging is used interchangeably with the terms belongingness and belonging.

- ***College Belonging***: Defined by Goodenow (1993) as the extent to which a student believes others at their institutions, accept, respect, and includes them. College Belonging is described as students' sense of belonging to the overall institution. For instance, possessing a strong level of pride in attending the institution contributes to feeling a strong sense of connection to the institution.

- ***Ethnic Identity***: Ethnic identity refers to a subjectively designated ethnic label that individuals use to describe their ethnic affiliations and is rooted in one's cultural experiences. Associating with specific ethnic groups entails complex cognitive and affective processing (i.e., self-concept of knowledge, emotions, and attitudes towards the ethnic group[s]). Uba (1994) described an ethnic identity as a schema that (a) engenders general knowledge, beliefs, and expectations that a person has about his or her ethnic group; (b) functions as a cognitive, information processing framework or filter within which a person perceives and interprets objects, situations, events, and other people; and (c) serves as a basis for a person's behavior. (as cited in Ibrahim, Ohnishi, & Sandhu, 1997, p. 36)

- ***Mental Health***: Mental health includes the psychological well-being (Medline, 2019) of students as it relates to experiencing symptoms related to depression, anxiety, and stress.

Chapter Organization Overview

The present study has been organized and is presented as follows. In chapter I, a historical context for the problem that has been studied, and the significance of the problem is

presented. This includes the importance of educational attainment for Students of Color, communities, and society as well as the barriers that have created challenges for attaining these achievements. This chapter also provides a context for the study of mental health in the minoritized communities and how this impacts help-seeking behaviors. Chapter II includes a literature review of the research that currently exists related to the topic. The review of literature includes an exploration of the examined variables and literature for these variables specific to this population. The review of the literature describes in detail the current experiences of Students of Color, their needs in graduate school at PWIs, and mental health outcomes. In this chapter, gaps and areas for further research are presented. The chapter presents the prevalence of the current study and variables this study seeks to address. Chapter III describes the methods and procedures used for the current study, which includes descriptions of the participants, measures, procedures, and analyses. This chapter also includes descriptive information of the institutions (i.e., PWIs) included in the 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

The purpose of this literature review is to provide the context for conducting a study that explores the relationships between sense of school belonging, ethnic identity, and challenges to mental health. In order to do this, literature on psychological outcomes for college students based on belonging and ethnic identity is reviewed. While there is not a significant amount of research in this area, literature that makes the argument for fostering a sense of belonging for graduate Students of Color at PWIs and how this can reduce symptoms related to depression, anxiety and stress is included. This section also presents the pertinent literature related to the variables included in this study: sense of belonging, school belonging, ethnic identity, sense of belonging and ethnic identity, HBCU and PWI experience, Graduate Students of Color experience at PWIs, depression, anxiety, and stress and depression, anxiety and stress among college and university students.

Sense of Belonging

There is a long history exploring the need for connection and forming social bonds in psychological research literature. Included in this history is the need for affection between people (Murray, 1938), the need for positive regard from others (Rogers, 1951), the need for relatedness (Deci & Ryan, 1991; Vallerand, 1997) and belongingness (Baumeister & Leary, 1995; Goodenow, 1993; Maslow, 1954). According to Maslow (1968) proper and timely satisfaction of the need to belong leads to emotional, behavioral and mental well-being. Baumeister and Leary (1995) suggested that the need to belong is characterized by a need for constant contact and the perception that interpersonal relationships are stable and ongoing. Denoting that failure to have this sense of belonging can lead to isolation, loneliness or

alienation. Importantly, however, Kelly (2001) posits that differences in the need to belong require different levels of social contact. Thus, relating the importance of considering individual differences when exploring the concept of sense of belonging, Students of Color, and their White counterpart on PWIs campus; as their needs are different.

Sense of belonging has a range of definitions in psychological literature. However, it is widely agreed that the construct of belonging is dynamic and multi-faceted. In most psychological studies, a sense of belonging in an educational setting is conceptualized as the subjective perception of ones' connectiveness to the environmental and social context of an institution, suggesting that an individual feels some level of belonging in response to environmental features and social interactions. Additionally, there are cultural and individual differences that influence how people perceive external cues and how they express and satisfy the need to belong (Baumeister & Leary, 1995). Education researchers (Connell & Wellborn, 1991; Deci & Ryan, 1991; Finn, 1989; Osterman, 2000) identify a sense of belonging as one of the most important needs of students to help them function in all types of environments. Furrer and Skinner (2003) suggest that students who feel that they belong to a learning environment report higher happiness, interest, and more confidence engaging in learning activities, whereas those who feel isolated report greater anxiety, frustration, and sadness during academic engagements. Highlighting the importance of studies related to students' perspective of their sense of belonging to an academic institution, that is, do the students believe they connect with other students and faculty members, and are supported by their institution.

College Belonging

Research on College Belonging suggests that a sense of College Belonging is an important contributing factor to college students' psychological adjustment. School Belonging is a type of belonging that depicts the broader feeling connectedness to a larger school community; rather than specific relationships with individuals in the school setting. College Belonging is defined by Goodenow (1993) as the extent to which a student believes others at their institutions, accept, respect and includes them. Osterman (2000) phrased it differently stating that school belonging is a student's sense of community regarding the school context. A majority of the research examining school belonging has been conducted among middle and high school students, however, multiple studies have explored a 'sense of belonging' at the college level (Hausmann, Schofield, & Woods, 2007; Museus, Yi, & Saelua, 2017). Similar to research on sense of belonging in middle and high school setting, research on sense of belonging in higher education focus on academic achievement and educational outcomes (e.g., Cham, Hughes, West, & Im, 2014; Eccles & Roeser, 2003), relationship between sense of belonging and academic engagement or retention (e.g. Faircloth & Hamm, 2005; Hausmann et al., 2007; Zumbrunn, et. al, 2014) and explores the relationship between sense of belonging and psychological outcomes (e.g., Freeman, Anderman, & Jenson, 2007; Gummadam, Pittman & Loffe, 2016; Pittman & Richmond, 2007).

However, research that explores belonging and psychological outcomes posits a positive association between school belonging and psychological adjustment (Resnick et al. 1997). Specifically, studies show a relationship between school belonging and lower levels of depression (Hagerty et al.,1996; Mounts, 2004; Pittman & Richmond, 2007). Results from a study conducted by Ostrove and Long (2007) suggest that a sense of belonging in college

mediates the relationship between social class and adjustment to college; asserting that lower social class predicts lower school belonging. Additionally, belonging was found to be a strong mediator between campus racial climate and psychological outcomes (i.e., symptoms of anxiety and depression) for African American students compared to their White counterparts (Mounts, 2004). Therefore, school belonging seems to be relevant for predicting the psychological outcomes of college students and may be important to consider when looking specifically at ethnic minority graduate students. This is particularly important as more research examining sense of belonging and psychological outcomes in higher education becomes more prevalent in the literature.

Ethnic Identity

Researchers have identified that there are multiple factors that influence students' sense of belonging in college. These include peer and faculty interaction (Hoffman et al., 2002-2003; Hurtado & Carter, 1997; Velasquez, 1999), cultural factors (Museus & Maramba, 2011), and students' perceptions of the racial climate and their diversity experiences on campus (Cabrera, et al., 1999; Chavous, 2005; Hurtado & Carter, 1997; Johnson et al., 2007; Maestas et al., 2007). Additionally, Strayhorn (2012), stated that social identity, such as race, ethnicity, sexual orientation, and the intersectionality of these social identities play a part in perceived sense of belonging. The role students' ethnic identity plays on their perceived sense of belonging to a PWIs compared to an HBCU, and psychological symptoms experienced, was explored in this study; as ethnic identity has been linked to psychological outcomes among ethnic minority college students (Phinney & Alpuria, 1990; Umana-Taylor et al., 2014). Roberts et al. (1999), suggested that those align with their ethnic identity have been found to have a clearer commitment and sense of belonging to their group. Phinney (1996) defines ethnic identity as “an

enduring, fundamental aspect of the self that includes a sense of membership in an ethnic group and the attitudes and feelings associated with that membership” (p. 222).

Research suggests that ethnic minority college students with a stronger alignment to ethnic identity have higher self-esteem, and better overall psychological outcomes (Phinney & Alipuria, 1990; St. Louis & Liem, 2005). However, those who have a less well-defined ethnic identity have been reported to experience more symptoms of anxiety and depression (Brittian et al., 2013; Yip, Seaton, & Sellers, 2006). These findings have been found to be consistent across research conducted with student population; specifically, with ethnic minority groups, to include Asian American, Latinx and African Americans (Gummadam, Pittman & Loffe, 2015). In a meta-analysis study by Smith and Silva (2011) results indicated a moderate association between ethnic identity and the well-being of individuals for ethnic minority groups ($r = .17$), large effects sizes were however reported for measures related to positive well-being, compared to ‘negative’ psychological symptoms and ethnic identity. Additionally, researchers found a stronger association between ethnic identity and psychological symptoms for individuals under 40 years old and no significant differences based on race, socioeconomic status or gender (Smith & Silva, 2011). It can, therefore, be deduced that strong ethnic identity can either lead to sense of belonging in an environment that values students’ ethnicity or results in a lack of sense of belonging in an environment that is discriminative.

Membership and involvement within an institution are considered key factors for fostering sense of belonging. Therefore, it is important to consider the relevance of diversity and to create an environment that is welcoming to ethnic minorities, especially on the campuses of PWIs. Hurtado and Ponjuan’s (2005) two-year longitudinal study examined numerous factors that contribute to sense of belonging in college in their sample of 370 Latino/(a) college students.

The results of the study's blocked hierarchical regression analyses indicated higher levels of belonging were linked to perceptions of a less hostile (or positive) racial climate on campus, interacting with diverse peers, having taken diversity-focused courses, and being involved in academic support programs.

Given the importance of sense of belonging on ethnically diverse college students' growth and learning, understanding graduate Students of Color sense of belonging is critical in supporting this student population in curricular, co-curricular, social, or personal settings within higher education. However, a paucity of information exists on the a) factors influencing graduate Students of Color sense of belonging as well as b) an understanding of how ethnic identity impacts these students sense of belonging, and c) experience of psychological outcomes among different institutions (HBCUs and PWIs).

Sense of Belonging and Ethnicity

Sense of belonging, specifically college belonging, and ethnic identity have been linked to both positive and negative psychological outcomes and college student samples. However, studies exploring both constructs are limited (Gummadam, Pittman & Loffe, 2016). Gummadam, Pittman and Loffe, (2016) reported positive associations between school belonging and perceived self-worth, scholastic competence, and social acceptance, and a negative association between school belonging and depression among ethnic minority students. Additionally, they reported a positive association between ethnic identity and perceived self-worth among ethnic minority students (Gummadam, Pittman & Loffe, 2016). Baumeister & Leary's (1995) belongingness hypothesis states that humans have a need for social interactions and belonging, and when this is satisfied, people feel more positive about themselves (Baumeister & Leary,

1995). Therefore, an individual that does not have a sense of belonging to a group or institution is likely to experience negative psychological outcomes.

As mentioned earlier, individuals with a strong alignment to ethnic identity have a stronger sense of belonging to their ethnic group (Phinney & Ong, 2007), while those with a stronger sense of college belonging feel more connected to their school (Goodenow, 1993). Hence, ethnic minority graduate students can experience a sense of belonging through feeling connected to their institution and feeling connected to their ethnic group. Consideration of how these two factors function independently or together can provide a bases for understanding psychological outcomes (i.e., symptoms of depression and anxiety) in graduate Students of Color. Based on the aforementioned belongingness hypothesis (Baumeister & Leary, 1995) a lack of connection to either the institution or ethnic group can result in negative psychological outcomes. Consequently, considering the combined influence of these constructs (i.e., ethnic identity and school belonging) on graduate Students of Color psychological outcomes is warranted.

HBCUs and PWIs Experience

Literature on HBCUs and PWIs depicts differences in the social atmosphere at each type of university that contributes to student's feeling descriptions concerning their educational experiences and level of persistence. According to Davis (1991), in addition to increased social options Students of Color, specifically, African American students at HBCUs report being able to navigate classes and other activities without having to worry about race dynamics.

Wenglinsky (1999), elucidates that although more Students of Color attend PWIs, those attending HBCUs are more likely to pursue a doctoral degree. Suggesting that the supportive environment of HBCUs help students to feel encouraged and motivated. Additionally, Thomas

and Green (2001) state that Students of Color at HBCUs are presented with more leadership opportunities on campus, further improving their self-esteem and confidence. However, despite the reported positive attributes of HBCUs, more Students of Color are electing to pursue education PWIs (Love, 2009). Love (2009) also noted that issues of campus climate, racial stereotypes, and faculty relationships as factors presenting problems for Students of Color at PWIs. This highlights the need for continuous work to ensure that Students of Color have experiences equitable to their White counterparts at PWIs. PWIs in this study is operationally defined as institutions in which the majority of the student population has been and continues to be attended by predominantly White students.

Literature comparing HBCUs and PWIs also highlights differences in historical context, as well as student experiences (Kim & Conrad, 2006), exploring HBCUs vs. PWI, in addition to comparing the experiences of White Students and Students of Color. A qualitative study conducted by Davis et al. (2004) used the process of phenomenological interviewing to examine the experiences of 11 African American students who had completed their degree programs at PWIs. The study aimed to examine participants' experiences by allowing open-ended responses and documenting the consistent themes that emerged. Results of the phenomenological interviewing revealed the following themes: feeling invisible, experience of isolation and lack of connection as primary concerns during their time at their institutions. They also noted that students felt that they had to prove their worthiness to be at the university.

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; Museus, Yi & Saelua, 2017; Solorzano, Ceja, & Yosso, 2000). This area of the research discussed how Students of Color experience these institutions, barriers they encounter

and factors that impact their integration into the institution. Lett and Wright (2003) explored the psychological barriers Students of Color are faced with at PWIs and results indicated that some of these barriers included feeling isolated, non-acceptance and rejection. These feelings appear to be common among Students of Color (Love, 2009; Patton, Bridges, & Flowers, 2011; Solorzano et al., 2000) and 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) review of literature on racial identity development, and psychosocial theories related to majority-minority student and adult development and concluded that there is a need for multicultural diversity on predominately White campuses. Additionally, a myriad of studies conducted on sense of belonging posits that most Students of Color do not perceive a sense of belonging at PWIs. It has been therefore concluded that institutions could be more intentional about creating a campus environment that are more inclusive of Students of Color students and should work to meet not only student academic but psychological needs. Student Affairs offices at PWIs are charged and often responsible for working towards ensuring that Students of Color are “psychologically, socially and academically sound”. This is and can be accomplished by implementing multicultural initiatives that are tailored to all ethnic groups (Lett & Wright, 2003, p. 195). Furthermore, Museus, Yi & Saelua, (2017) used survey data from 870 students at an urban public research university to examine the relationship between sense of belonging and culturally engaging campus environment among white students and Students of Color. They described how culturally responsive campus environment could either facilitate or hinder graduation and belonging among racially diverse college students. They suggested that culturally engaging environment explains a significant portion (i.e. 51%) of the variance in the belonging outcomes for both White students and Students of Color. They posit that

“postsecondary institutions must also convey clear message that validates students and affirm that their cultural communities are valued by their institutions” (Museus, Yi & Saelua, 2017, p. 15).

Graduate Students of Color Experience at PWIs

Research has explored the experiences of Students of Color, specifically Black students in graduate education at PWIs. However, there is limited research (e.g., Anderson & Hrabowski, 1977; Joseph, 2012) exploring how attending HBCUs for undergraduate education, impacts pursuing graduate education at PWIs. Anderson and Hrabowski (1977) found that Black students who attended an HBCU for undergraduate education were equally successful in Graduate school (Master and Doctoral level) as Black students who attended PWIs. However, this study is several decades old, and there is a need to understand whether these findings still apply.

Joseph (2012) examined how the first two years of graduate school following undergraduate education at an HBCU impacted the likelihood of students’ departure from doctoral studies. The researcher interviewed 6 Black women in their first two years in a doctoral STEM program about their experiences of the different cultures of HBCUs and PWIs and their transition to a PWI for graduate school. Results showed that students 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 not feeling a sense of belonging at PWIs and identified their experiences as daunting and yet cordial, generally expressing that their interactions with faculty at the PWIs further perpetuated the message that they did not belong. The researcher also noted that inaccessibility and negative relationships could contribute to low self-esteem in students.

Joseph (2012) also highlighted that although participants 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 (Joseph, 2012). Lack of integration, both socially and academically, can play a large determining role in whether graduate Students of Color perceived that they belong at PWIs.

While this research was informative regarding understanding graduate Students of Color experience transitioning from HBCUs to PWIs, there are several limitations that must be acknowledged when considering the results of this study. First, due to the qualitative nature of the study, there was a small sample size of 6 doctoral students, with all being female. Secondly, 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. However, even with these limitations, this study provides some insight into how these Black female doctoral students experience graduate studies at PWIs after they had graduated from HBCUs. The present study seeks to address several of these limitations by conducting a quantitative analysis examining whether attending either HBCUs or PWIs as undergraduates are significantly associated with sense of belonging, as well as related to symptoms of depression, stress, and anxiety for Graduate Students of Color at PWIs.

Gildersleeve, Croom & Vasquez (2011) explored the culture of doctoral education and the social narratives projected in Black and Latino/a graduate students. Researchers interviewed 22 Black, and Latino/a students and initial findings revealed a recurring phrase of “going crazy” across student’s response. The researchers, therefore, decided to future explore what this phrase meant to students and how it impacted their 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 student of color” and “the active engagement with struggle and resiliency required by Students of Color ” (Gildersleeve et al., 2011, p. 100). Researchers then re-analyzed the data 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 additional data analysis identified themes that included socialization into graduate school and racial aggressions, both micro- and macroaggressions, related 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). Among these narratives, researchers also found evidence that socialization processes and racial aggressions impacted Black and Latino/a students’ perception of belonging to the institution.

As a result of the analysis of these narratives, Gildersleeve et al. (2011) assert that institutions of higher education should reimagine doctoral education for Black and Latino/a students. They ended their analyses with an exploration of the longstanding injustices that Black and Latino/a students have experienced throughout their participation in graduate 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 presented themes related to Students of Color feeling isolated, lack of belonging experiences, and as having impact on mental states.

Depression, Anxiety, and Stress

College and university students have become a popular area of study as the prevalence of mental health disorder increases on college and university campuses (Hunt & Eisenberg, 2010). A recent student conducted by Evan et al. (2018) concluded that there is a high prevalence of

anxiety and depression among graduate students and called for higher education institutions to develop, establish and expand mental health resources for graduate students. There is, however, limited research on depression, anxiety, and stress among graduate Students of Color. Therefore, the following includes relevant literature that details how depression, anxiety, and stress become psychological barriers to Students of Color in the college and university setting. Those studies that do exist concerning graduate Students of Color are also be presented. Depression, anxiety, and stress are often intercorrelated. Therefore, many studies address all three variables rather than study these in isolation (Bayram & Bilgel, 2008; Gilmore, Osho, & Heads, 2013).

Specific to the minoritized population, stress and depression are often examined as a result or predictor of one another (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 Students of Color, which are be presented here (e.g., Torres et al., 2010; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003). Eisenberg et al. (2007), quantitatively explored depression, anxiety, and suicidality among university students, including both undergraduate and graduate students. They noted that the type of study they pursued utilized clinically validated instruments and adjusted for a nonresponse bias extensively, had not been conducted in 30 years. Assessing for depression, anxiety, and suicidality, researchers utilized a web-based survey to gather data from students at a large public highly competitive, research-intensive, Midwestern university. The 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. Eisenberg et al. (2007) reported they intentionally oversampled their graduate and professional students, noting that there is even more limited research in this area for this population. These researchers utilized the PHQ-9 to

categorize students for depressive and anxiety disorders. They also utilized questions from the National Comorbidity Survey Replication 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. 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 women having a higher prevalence of both. Suicidal thoughts were also reported for both graduate and undergraduate students, 1.6% and 2.5% respectively. Based on a multivariate logistic regression, marginalized groups had significantly higher current mental health problems. Specifically, they found that women, students from lower SES groups, and 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 also 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 the 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 it 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, the 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 on 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 prevalent among college and university students. While many of the study 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 the present study is the finding that minority groups endorsed higher levels of depression and anxiety, with the exception of Asian students demonstrating lower levels of anxiety. Ethnic minority students in this study also displayed higher levels of suicidal thoughts, but lower reports of non-suicidal self-injurious. 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, among 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 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. Race-related barriers such as discrimination, isolation and experiences with microaggression 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 reported that indicated women experienced 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 graduate students, specifically doctoral students experience more stress and depression than the general population and specifically higher stress and depression in regard to women when comparing them to men.

Depression, Anxiety, and Stress for Students of Color at colleges and universities.

As several of the previous studies revealed, the prevalence of depression, anxiety, and stress appear to be significantly higher for minoritized students (Eisenberg et al., 2007; Eisenberg et al., 2013; Hyun et al., 2006). Racial dynamics also play an important role and impact students' psychological functioning. Therefore, the following highlights the paucity of research discovered in this topic area as it relates to challenges specific to graduate Students of Color 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 minoritized 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 participants. 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 highlights an impetus for the current study, which explores graduate Students of Color perceptions of experiences at PWIs. These researchers also emphasized the importance of institutions increasing their diversity in terms of faculty and students in order to support minority students. Williams and Williams-Morris (2000) present 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 minoritized populations, including the stigma of inferiority result in significant mental health consequences. Additionally, they 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 Students of Color 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 were a valid predictor of mental health outcomes. From their qualitative analyses, the concept of race-related barriers to include experiences of microaggression and feelings of isolation 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 contribute 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 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 women of color in academic settings, findings suggested that ethnic minority undergraduate and graduate women, and 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 impacted 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).

Chapter III.

Method

This chapter describes the methods used in the study. It begins with a description of the methodological approach and rationale. The sections that follow the rationale discuss elements of the research design, including participants, data collection methods, instrumentations, procedures and data analysis procedures utilized for this study.

Approach and Rationale

For this study, a quantitative survey method was used as the mode of research to explore the how students' ethnicity influences their sense of belonging and the relationship of sense of belonging and psychology symptoms experienced by Students of Color. Understanding sense of belonging from the students' perspective is an essential component to researching this construct among college population (Bettez, 2010; Hurtado & Carter, 1997). Therefore, a quantitative approach to this study depicts a more complex understanding of the relationship among students perceived sense of belonging and psychological symptoms experienced.

Participants

Descriptive statistics of the demographics of this sample can be viewed in Tables 1. Upon importing the data from Qualtrics data was collected from 550 participants. However, 329 of these participants were missing more than 50% of information and were therefore deleted. Additionally, the two participants who identified as international students were also excluded due to additional factors such as language barriers, acculturation and other culture specific challenges that might hinder a sense of belonging. After cleaning the data base to excluded participants with missing data and international students, the participants in this study include

219 Graduate Students of Color currently enrolled at Predominately White Institutions (PWIs). All participants met two eligibility criteria to participate in the study: (a) a full-time graduate student enrolled in a minimum 9 credit hours with the exception of graduate students completing internship or dissertation, and (b) self-identified as a student of color. Participants were 83% ($n = 182$) African American, 3.7% ($n = 8$) Asian American, 5.5% ($n = 12$) Hispanic American, .5% ($n = 1$) Native American, and 7.3% ($n = 16$) Biracial/Multiracial. The ages of these student participants ranged from 21-57 ($M = 31$, $SD = 8$ years). In this sample, 16.4% ($n = 36$) of the participants identified as men, while the other 82.2% ($n = 180$) identified as women, and 1.4% ($n = 3$), identified as genderqueer, nonbinary and intersex. Though the nationwide statistic shows that majority first graduate students in Fall 2017 were women (57.9%) and that women earned the majority of master's degrees (57.3%), and doctoral degrees (53.0%) awarded by U.S. institutions in 2016-17 (Okahana & Zhou, 2018) there seems to be an over representation of women in this study. With regards to current graduate education level 24.2% ($n = 53$) were master's Students while the other 75.8% ($n = 166$) are doctoral students. Data regarding the regional location of respondents' Universities are reported in Table 2. As it relates to type undergraduate Universities attended 22.8% ($n = 50$) attended a Historically Black College or University (HBCU) while the other 77.2% ($n = 169$) attended a Predominately White Institution (PWI).

Table 1
Demographic Characteristics of Study Population

<i>Characteristic</i>	<i>Number</i>	<i>Percent</i>
Gender		
Women	180	82.2
Men	36	16.4
Nonbinary	1	.47
Intersex	1	.47
Gender Queer	1	.47
Ethnicity		
African American	182	83
Asian American	8	3.7
Hispanic/Hispanic American/Latino/a	12	5.5
Native American	1	.5
Biracial/Multiracial	16	7.3
Sexual Orientation		
Heterosexual	192	87.7
Bisexual	8	3.7
Gay	9	4.1
Asexual	5	2.3
Queer	2	.92
Lesbian	1	.46
Pansexual	1	.46
Demisexual	1	.46
Educational Level		
Masters Students	53	24.2
Doctoral Student	166	75.8
Type of Undergraduate Institution		
Predominately White Institution (PWI)	169	77.2
Historically Black College/University (HBCU)	50	22.8

Table 2

Regional Location of Respondents' Universities

<i>Region</i>	<i>Number</i>	<i>Percent</i>
New England Region	12	5.5
Mid-Atlantic Region	30	13.7
Southern Region	115	52.5
Mid-West Region	38	17.4
South-West Region	12	5.5
Rocky Mountain	5	2.3
Pacific Coastal Region	7	3.2

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. Students were sampled from PWIs across different region in the United States. The obtained sample was broad and included graduate Students of Color from the Universities in the New England Region, Mid-Atlantic Region, Southern Region, Mid-West Region, Rocky Mountains, and Pacific Region.

Approval for all procedures and recruitment activities was sought from the Auburn University Institutional Review Board (IRB). Once approval was received, email requests were sent to listservs of national and local chapters of minority Graduate and Professional Students Associations and once permission to post was obtained, recruitment e-mails were the survey link was posted. Additionally, online social networking sites, such as Facebook was utilized. Descriptions of the study and survey link was also posted to three Facebook accounts: (a) Black Doctoral Students Facebook page, (b) Minority Graduate Students Facebook page, and (c) PhinisHD/FinishED Facebook page.

Once participants selected the survey link, they were presented with parameters of the study such as purpose, IRB approval information, length of survey and inclusion criteria. Finally, a consent statement was provided, informing participants that participation is voluntary, participants consented to participate by “agreeing to take the survey.” Incentives were a raffle of four \$25 gift cards. At the end of the survey, participants who wished to enter the drawing had the option of completing a separate entry for the \$25 gift card. All personal information was kept separate so that no identifying information could be linked back to the data.

There were three parts to the recruitment e-mail. The first was an introduction of the primary investigator and a description of the study. The second was information for faculty

advisor and evidence of approval by the universities Institutional Review Board (IRB). The third was a link to the survey itself. The Facebook posting was identical to the recruitment email. A copy of it can be found in Appendix B.

The survey was administrated using Qualtrics Software. The survey consisted of four parts. The first part was the informational letter that included 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 information letter can be viewed in Appendix A. The second part was the Demographic Form, which can be viewed in Appendix C. The third part was the three instruments used in this study the Multigroup Ethnic Identity Measure-Revised (MEIM-R; Phinney & Ong, 2007), the Depression Anxiety Stress Scale (DASS; Lovibond & Lovibond, 1995) and the adapted Sense of Belonging Instrument (SOBI; Hagerty, et al., 1996). The instruments are included in Appendix D, E and F respectively.

De-identified data were collected and stored in an excel spreadsheet, which was then analyzed using SPSS software (version 25). The fourth part of the survey was a link that took participants to a page where they could register for the incentive drawing by entering their e-mail address. Email 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 four measures included in this study. These were a demographic questionnaire, the Multigroup Ethnic Identity Measure-Revised (MEIM-R; Phinney & Ong,

2007), the Sense of Belonging Instrument (SOBI; Hagerty et al., 1996) and the Depression Anxiety Stress Scale (DASS; Lovibond & Lovibond, 1995).

Demographics Questionnaire

The first assessment was the demographics questionnaire. Participants were asked to provide information regarding the type of school they attend (PWI or HBCU) and their current graduate status (Masters or Doctoral Level). The demographics questionnaire also collected information regarding ethnicity, age, marital status, and gender.

The Multigroup Ethnic Identity Measure-Revised (MEIM-R)

The MEIM-R (Phinney & Ong, 2007) was used to measure the strength of ethnic identity among participants. The measure is a brief instrument that assesses affiliation with one's ethnic group. The MEIM-R is a revised version of the MEIM (Phinney, 1996) and is designed to better reflect the two core factors of exploration (items 1, 4 and 5) and commitment (items 2,3, and 6) believed to be integral to ethnic identity (Phinney & Ong, 2007). There are three items for each core factors. Therefore, the MEIM-R is a 6-item self-report scale, with two additional items used to obtain ethnic group related demographic information, for a total of 8-items. According to Phinney and Ong (2017) analysis of multiple data sets, conceptual analyses, and focus groups to refine MEIM wording and item selection was conducted to develop the MEIM-R.

Reliability estimate in current study were .75 for the Explorations subscale,.86 for the Commitment subscale, and .85 for the total scale. Evidence supporting the interpretation and use of scores was found using confirmatory factor analysis and was reported to be, .96 for adjusted goodness of fit index, .98 for comparative fit index, and .04 root-mean-square error of approximation (Phinney & Ganeva, 2010). Items on the MEIM- R are answered using a 5-point response format with choices ranging from strongly agree (1) to strongly disagree (5). When

research focuses on the overall strength of ethnic identity, as this current study does, Phinney and Ong (2007) suggest using the single overall score, which is calculated by taking the mean of the items. Higher scores indicate a stronger ethnic identity.

The MEIM-R has been available for many years and has been used with many different populations (Herrington et al., 2016). The two-factor structure was supported in a study conducted by Yoon (2011) in which the measure was used with 298 counseling students. Similar support was found by Chakawa, Butler, and Shapiro (2015) with a sample of 105 African American and 91 European American adults from Alabama, with a large sample of East Asian adolescents in Canada (Homma, et al., 2014) and pregnant women in California (Brown et al., 2014).

Sense of Belonging Instrument (SOBI)

The instrument that was used to assess graduate Students of Color perceived sense of belonging is a 27-item instrument that is divided into two separate scales. The first scale is the Sense of Belonging Instrument- Antecedent (SOBI-A) and the second scale is the Sense of Belonging Instrument- Psychological state (SOBI-P). The SOBI-A assesses the antecedents, which pertains to a person's desire and ability to develop sense of belonging (Hagerty et al., 1996). Also, Hagerty et al. (1996) suggest that antecedents describe a person's potential for shared characteristics. The SOBI-P was adapted to assess students' psychological sense of belonging, however, for this study the items were adopted to measure students' psychological sense of school belonging. For example, item 10 would state "in general, I don't feel a part of my campus community" instead of "In general, I don't feel a part of the mainstream of society." The SOBI-P was negatively worded and therefore was reverse scored when calculating participant scores for data analysis.

Participants responded by selecting an option from a four-item Likert-style scale ranging from (1) strongly disagrees to (4) strongly agree. The developers used three subject groups to assess internal consistency reliability, and the scales was reliable for all three groups. For the sample of graduate student of color in this study Cronbach's alpha reliabilities for the Sense of Belonging Instruments were as follows: adapted SOBI-P scale .92 and SOBI-A scale .66. This reliability coefficient for SOBI-A is low suggesting that the items within the scale may not be measuring the same underlying construct.

Hagerty et al. (1996) use three methods to examine construct validity and included (1) comparing items with other measures, (2) factor analysis, and (3) contrast groups. The Sense of Belonging Instrument has been used to assess the effects of belonging on various aspects of psychological functioning. For example, Choenarom, Williams, and Hagerty (2005) used the SOBI to assess the role of belonging and social support on depression. The scale has been used with diverse populations.

Depression Anxiety Stress Scale (DASS).

The DASS (S.H. Lovibond & Lovibond, 1995) 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 that these two scales were not sufficiently different, which makes it difficult to determine whether symptoms are attributed to depression or anxiety (Antony, Bieling, Cox, Enns, & Swinson, 1998; Clark & Watson, 1991; Lovibond, & Lovibond, 1995). The DASS is highly discriminant for anxiety and depression and also includes a measure of stress, which assesses for symptoms common to both depression and anxiety. The DASS is a 42-item survey, with three self-report scales designed to measure depression, anxiety, and stress and was used in the current study to determine the self-report

level of depression, anxiety, and stress among graduate Students of Color at PWIs. Participants responded by selecting an option from a four-item Likert-style scale ranging from (0) did not apply to me at all to (3) applied to me very much, or most of the time to rate the extent to which they have experienced each state over the past week. Sample items from this measure include “I just couldn't seem to get going” (Depression), “I had a feeling of shakiness (e.g., legs going to give way)” (Anxiety), and “I tended to over-react to situations” (Stress). Scores all three scales (i.e., Depression, Anxiety and Stress) are calculated by summing the scores for the relevant items.

The DASS scores had high internal consistency in prior research. In a sample of undergraduate Students of Color across four ethnic groups (i.e., African American, Caucasian American, Hispanic American, and Asian American), the alpha reliabilities for depression, anxiety, and stress were .83, .78, and .87 respectively (Norton, 2007). In the current sample of graduate Students of Color Cronbach's alpha reliabilities for the Depression, Anxiety and Stress Scale scores were as follows: Depression .95, Anxiety .91 and Stress .94. According to Lovibond & Lovibond (1995) 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).

Chapter IV.

Results

This chapter highlights the 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 instruments mentioned above within this sample. The final section provides the data analyses and results of the tested hypotheses. This chapter concludes with a summary of the results and study findings. In this study, hypotheses testing was 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 and graduate level. These variables were also utilized in one of the following analyses. Table 3 details the descriptive statistics obtained from the sample on the measures of School Belonging (Antecedent and Psychological state), Ethnic Identity, and Depression, Anxiety, and Stress. To determine the 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, based on the clinical range severity-rating index identified by Lovibond & Lovibond (1995) average depression, anxiety and stress scores were in the normal range. The assumption of MANOVA (i.e. normality) was also tested and all measures except for the SOBI-P scale were non-normal on skew, with the MEIM-E and MEIM-C being negatively skewed and the SOBI-A and DAS scale being positively skewed.

Table 3

Descriptive Statistics

Scale Score	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Skew</i>	<i>SE</i>	<i>Kurtosis</i>	<i>SE</i>
MEIM-Exploratory	219	4.15	.77	-1.301	.164	2.704	.327
MEIM-Commitment	219	4.39	.74	-1.853	.164	4.744	.327
MEIM- Total	219	4.27	.68	.987	.164	.508	.327
SOSB-Psychological	219	45.89	9.90	-.010	.164	-.014	.327
SOB- Antecedent	219	28.55	3.05	.370	.164	-.437	.327
Depression	219	8.35	9.41	1.381	.164	1.309	.327
Anxiety	219	5.86	7.07	1.860	.164	3.893	.327
Stress	219	11.35	9.56	.987	.164	.508	.327

Note. Scores for MEIM- Exploratory, MEIM-Commitment and MEIM-Total range from 1 to 5.

Scores for SOB-Psychological range from 18 to 72 and SOB- Antecedent range from 9 to 36.

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

Reliability

Before analyzing the data, the estimated Cronbach's reliability for these measures were conducted with this sample of data. First, Cronbach's alpha reliability analyses were conducted 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. 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). Cronbach's α is also affected by test length. If the test length is too short, the value can be reduced; longer tests with more items related to testing the same concept related to potentially increased alpha (Tavakol & Dennick, 2011). Cronbach's α is the most often used estimate of reliability when analyzing data from survey research. The Cronbach's alpha coefficient for each scale using this sample follows. Cronbach's alpha reliability coefficients for the MEIM-R were as follows: Explorations subscale .75, Commitment subscale .86, and total .85. Cronbach's alpha reliabilities for the Sense of Belonging Instruments were as follows: adapted SOBI-P scale .92 and SOBI-A scale .66. Cronbach's alpha reliabilities for the Depression, Anxiety and Stress Scale were as follows: Depression = .95, Anxiety = .91 and Stress = .94.

Data Analyses

Hypothesis I. Hypothesis I stated that there would be a significant relationship between Sense of Belonging, Ethnic Identity and Depression, Anxiety, and Stress for Graduate Students of Color at PWIs. To test this hypothesis a canonical correlation analysis was conducted using the two sense of belonging variables and the two ethnic identity variables as predictors of the three psychological outcome variables to evaluate the multivariate shared relationship between the two variable sets (i.e., sense of belonging and psychological outcome). The analysis yielded three functions with squared canonical correlations of (R_c^2) .38, .08 and .01 for each successive function. Collectively, the full model across all functions was statistically significant using the Wilks's Λ criterion, ($\Lambda = .573$, $F_{12,561.19} = 10.955$, $p < .001$). For the set of two canonical functions, the full model explained approximately 38% of the variance in the set of variables ($R^2 = .38$).

The dimension reduction analysis allowed for the test of the hierarchal arrangement of functions for statistical significance. The first function accounted for about 87% of the explained variance and was statistically significant ($F_{12,561.19} = 10.956$, $p < .001$, $R^2 = .38$). The second function accounted for about 12% of the explained variance, and was also statistically significant ($F_{6,426} 3.136$, $p < .05$, $R^2 = .08$). The final function accounted for only about 1% of the explained variance, and was not statistically significant ($F_{2,214} = .726$, $p = .485$). Given the R_c^2 effects for each function, the first and second functions were considered noteworthy in the context of this study as they explained 38% and 7% of the variance within its function respectively. The third function only explained .60%, of the remaining variance in the variable sets after the extraction of the prior functions. See Table 4 for the results of the eigenanalysis.

Looking at the Function 1 coefficients, the relevant criteria variables were depression, anxiety and stress. This conclusion was supported by the squared structure coefficients. These variables also had the largest canonical function coefficients. Regarding the predictor variable set in Function 1, psychological sense of belonging was the primary contributor to the predictor synthetic variable. Function 1 appeared to capture an inverse relationship between psychological sense of school belonging as a predictor and depression, anxiety and stress as criterions.

Moving to Function 2, the coefficients in Table 5 suggest that the only criterion variable of relevance was depression. However, the coefficient of the criterion was greater than one (i.e. 1.541) indicating problem in the data, likely with multicollinearity in the set of predictor variables.

Table 4

Canonical Correlations and Eigenvalues for Each Function

Number	Eigenvalue	% Var.	Cum. % Var.	R_C	R_C^2
1	.601	87.00	87.00	.613	.375
2	.083	12.02	99.02	.277	.077
3	.007	.98	100.00	.082	.007

Table 5

Standardized Canonical Coefficients and Zero-Order Correlations for Predictor and Criterion Variables for Interpreted Canonical Functions (Functions 1 and 2)

Variable	Function 1			Function 2		
	Coefficient	r_s	r_s^2	Coefficient	r_s	r_s^2
SOB - Psychological	.927	.941	.885	-.168	-.262	.068
SOB-Antecedent	-.270	-.180	.032	-.893	-.757	.573
MEIM-Exploration	-.282	-.281	.080	.010	.356	.128
MEIM-Commitment	.314	.000	.000	.625	.441	.194
Depression	-.290	-.875	.766	1.541	.473	.224
Anxiety	-.384	-.948	.900	-1.077	-.205	.042
Stress	-.405	-.941	.885	-.349	-.144	.021

Hypothesis II. Hypothesis II stated that there would be a significant difference in Sense of Belonging, Depression, Anxiety, and Stress, as a function of the type of undergraduate institution attended, gender, and graduate level. 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. The MANOVA allows the unique opportunities for an exploration of the variety of ways variables may interact with each other and have relationships; this is not obtained by running separate ANOVAs (Weinfurt, 2000) In this sense, Bray and Maxwell (1985) state that 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. The MANOVA was chosen to test this hypothesis because the research question sought to examine differences in means based on several demographic variables, including the type of undergraduate institution and current graduate level.

Two MANOVA was conducted one to analyze the differences in the mean scores of Sense of Belonging (antecedent and psychological) between gender, type of undergraduate university and graduate level and the other to analyze the difference in mean scores of Depression, Anxiety and Stress between gender, type of undergraduate university and graduate level . See Table 6 for Multivariate results of MANOVA. This analysis revealed no significant effects of undergraduate institution, gender or graduate level. Thus, Hypothesis II was not supported. In order for MANOVA to work appropriately, there are assumptions that must be met: (1) observations must be independent, (2) the response variables are multivariate normal and (3) the population covariance matrices are equal across level (Finch, 2005). These assumptions were tested in this study and both the assumptions multivariate normality and

homogeneity of the covariance matrices were not met. As it relates to multivariate normality Depression ($skew = 1.38, SE = .164$), Anxiety ($skew = 1.86, SE = .164$), Stress ($skew = .99, SE = .164$), and SOB- Antecedent ($skew = .37, SE = .164$) scores were all positively skewed. This assumption was however met for students SOB-Psychological scores which was normal on both skew and kurtosis. As it related to homogeneity of the covariance matrices, the covariance matrices were not equal (i.e. they were significantly different) based on Box M results ($F_{36,2565.152} = 1.48, p < .05$) indicating that there may be severe distortion in the alpha levels of the tests. Researchers have conducted studies to understand the performance of MANOVA when these assumptions are not met. Everitt (1979) found that in a majority of cases departure from normality have a limited impact on type I error rate of MANOVA. While, Hakstian, Roed and Lind (1979) found that when samples are not equal in size as with the current study, a heterogeneous covariance matrix can cause type I error rate to be inflated and power to be diminished.

Table 6

Multivariate Results for MANOVA for Depression, Anxiety and Stress

Variable	<i>F</i>	<i>p</i>	Wilk's Λ	<i>df</i>
Undergraduate Institution	1.578	.196	.976	3
Gender	.689	.801	.989	3
Graduate Level	1.157	.598	.982	3

Table 7

Multivariate Results for MANOVA for SOB-P and SOB-A

Variable	<i>F</i>	<i>p</i>	Wilk's Λ	<i>df</i>
Undergraduate Institution	1.847	.160	.981	2
Gender	.275	.760	.997	2
Graduate Level	.331	.719	.981	2

In this chapter, the results of the statistical analyses were presented for Graduate Students at PWIs. Two hypotheses were tested. Chapter V provides an interpretation and discussion of the findings and results presented in this chapter. Chapter V also includes implications for practice, limitations of this study, and suggestions for future research.

Chapter V.

Discussion

This chapter presents an interpretation of the results provided in Chapter IV. Results are situated in the context of findings from previous research found regarding Graduate Students of Color at PWIs. The findings of the study are discussed with consideration for the ways this information can be used or applied by educator or clinically; especially for mental health providers in university counseling centers. Limitations of the study and suggestions for future research when considering the graduate students of color population and their belonging and mental health outcome are also presented. This chapter concludes summarizing conclusions and implications the study findings have for further examination of this area of research.

Interpretation of Findings

As stated in Chapter IV, the results of this study partially supported the first proposed hypothesis. Findings suggest that a sense of school belonging at the university level is associated with the psychological outcomes of graduate Students of Color. In contrast, alignment with ethnic identity was not strongly associated with psychological outcome, especially when considered at the same time as a sense of school belonging. There were significant inverse relationships found between psychological sense of school belonging and depression, anxiety, and stress. This finding is similar to results of previous studies which found that college students who experience belonging alignment with their college or university have been found to experience less loneliness (e.g., Hagerty et al., 1996; Mounts, 2004; Pittman & Richmond, 2007); which has been linked to fewer depressive symptoms and improved feelings of self-worth (Vanhalst et al., 2012). This study adds to the growing body of literature suggesting that a sense of school belonging is an important factor in the psychological outcomes of college students

(e.g., Freeman et al., 2007; Pittman & Richmond, 2008). Furthermore, it extends this literature by demonstrating these associations among ethnic minority graduate students. While previous research has demonstrated a sense of school belonging is linked to academic outcomes among minority college students (e.g., Hurtado & Carter, 1997; Walton & Cohen, 2011), research examining its links to psychological outcomes has been limited (Mounts, 2004). In this study, associations were found between psychological school belonging and multiple measures of psychological outcomes, including depression, anxiety, and stress symptoms. Having a sense of belonging may enhance psychological outcomes in multiple ways. For example, by feeling like they belong to the institution, graduate students may feel more comfortable approaching professors, leading them to have more positive perceptions of their scholastic competence (Zumbrunn et al., 2014). Additionally, students who have a stronger sense of school belonging have been found to have more positive peer relationships (e.g., Hamm & Faircloth, 2005), which has been linked to more positive self-perceptions of social acceptance (Parker et al., 2006).

Compared to school belonging, ethnic identity was not found to be strongly associated with psychological outcome in graduate Students of Color in this study. Specifically, while canonical correlation coefficients indicated a commitment to ethnic identity was associated with anxiety and depression, the association was weak. The lack of stronger support for a link between ethnic identity and psychological outcomes was surprising based on previous research (e.g., Brittian, Umaña-Taylor, Lee et al., 2013; Yip et al., 2006). However, some previous research studies posit that ethnic identity has been more strongly linked to positive outcomes (e.g., self-worth) as compared to negative outcomes (e.g., depressive symptoms; Silva & Smith, 2011); which supports this finding. Across all covariates, school belonging was the stronger predictor. Thus, these study findings support the notion that school belonging is more important

to graduate Students of Color psychological outcome than feeling a sense of belonging with one's ethnic group.

Considering that graduate students often far removed from home, possibly with their own families and embedded within a new community, a sense of school belonging may be of particular importance. Given that the majority of the sample was doctoral students, it may be that over time, the importance of school belonging decreases as students become more acclimated to school life. Also, the importance of both school belonging and ethnic identity could vary by context. Brittian, Umaña-Taylor, & Derlan, (2013) found that the ethnic composition of the college campus has been moderate the links between ethnic identity and psychological outcome, such that it has stronger associations when less diversity is present. Therefore, the strength of the associations between ethnic identity and psychological outcomes may vary based on the level of diversity on the university campus.

The second hypothesis tested provided no significant results as it relates to the question of whether types of undergraduate institutions were a factor that contributed to students' sense of belonging in graduate school at PWIs. Other demographic variables that appeared to be important in the existing literature, such as, gender, and graduate level (i.e., masters or doctoral), were also included in this analysis. The results of the MANOVA indicated that none of these factors showed a difference in sense of belonging, depression, anxiety, and stress. This indicates that students, who attended HBCUs for their undergraduate education then attended PWIs for their graduate education, reported no significant difference in belonging or psychological outcomes when compared to their counterparts who attended PWIs for both their undergraduate and graduate education.

Implications

These findings highlight that it is important for PWIs to develop, establish or expand programs geared towards fostering a sense of belonging for graduate students of color. It is also important that administrators and educators at these institutions take steps to ensure students feel connected to other students and faculty members and feel that they are supported by their institutions. This is important as sense of belonging appears to be a factor that could play a significant role in alleviating some of previously stated barriers and challenges; specifically, regarding reducing depression, anxiety, and stress. Previous research supports building faculty and peer relationships, creating a curriculum that is racially conscious, taking diversity-focused courses and being involved in academic support programs (Hurtado & Ponjuan's, 2005). As indicated by these findings, there are benefits for students who perceive a sense of belonging to the institution. Having a sense of belonging could potentially increase students' opportunities to navigate and thrive in their institutions as opposed to just surviving. Institution administrator could collaborate with university mental health services to assist these students with achieving this goal. As opposed to allowing students to navigate the different challenges faced in isolation or leave it to chance that these students would discover pathways to belonging, 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 serve as another form of fostering belonging for graduate Students of Color.

Implications for Counselor Educators

Counselor Education program historically consist of majority White students and faculty, which can lead to the unintentional oppression of Students of Color at a macro and micro level (Sue et al., 2009). Therefore, it is important that counselor educators take steps to ensure that

students feel like that can connect with other students and faculty and are that they supported by their program. Additionally, counselor educators are ethically responsible to practice inclusivity and advocacy. Making it important to consider fostering a sense of belonging for Students of Color in counselor education programs in efforts to minimize depression, anxiety and stress symptoms and more so immediately address the isolation that some graduate students of color may experience.

Limitations

Though this study is critical in continuing the discussion on the importance of fostering a sense of belonging of Students of Color at PWIs, there are relevant limitations to consider. First, the small sample size of this study is noted, and further larger studies are suggested to confirm these results. Another limitation that could be addressed in future research is the reliance on self-report data for all aspect of functioning. While the measures selected for this study have been widely used, the response options and subsequent composite scores are ordinal in nature. In using these scores in a multivariate analysis, an assumption was made that these variables were linear.

Regarding sampling and generalizability, graduate students were sampled from institutions primarily in southern region. Thus, these results may not generalize to students in other regions of the country. Female students 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 listservs, national and local chapters of Minority Graduate and Professional Students Associations and social media. Thus, the results of this study may not be generalizable to students who do not have access to these listservs, belong to these organizations or correspond with these organizations through such mediums as Facebook.

Furthermore, while the current study assessed both sense of belonging and ethnic identity globally, studies have found support for specific factors underlying these constructs. For instance, Roberts et al. (1999) found that when using the MEIM, ethnic identity has been found to tap into two underlying components: (a) affirmation and belonging, and (b) exploration and active involvement. Similarly, You et al. (2011) posit that school belonging has been found to have an underlying factor structure including three components: caring relationships, acceptance, and rejection. Furthermore,

Additionally, this research study was exploratory in nature and had multiple limitations that could be addressed in future research. The cross-sectional nature of this study makes it impossible to infer causality between the predictors and psychological outcomes. In fact, it may be that graduate students have more scholastic competence or social acceptance are better able to connect with individuals at their university, enhancing their sense of school belonging. Similarly, those with more positive psychological symptoms may more readily explore and actively strengthen their ethnic identity.

Future Research

The majority of the research that focuses on graduate Students of Color takes into consideration racial identity factors and the impact of racism, discrimination, and experiences with microaggressions. Since this research study is ethnicity-related, utilizing measures that are related to these topics to further explore challenges to the mental health of graduate Students of Color at PWIs would contribute greatly to this area of research.

As mentioned above, while the current study assessed both sense of belonging and ethnic identity globally, some have found specific factors underlying these constructs. Therefore, future studies examining dimensions of ethnic identity and school belonging may identify specific

associations that are linked to the psychological outcomes of Students of Color, providing information about how best to target interventions.

Another limitation highlighted was exploratory and cross-sectional nature of the study. Therefore, longitudinal studies, where changes in psychological outcomes, sense of school belonging, and ethnic identity could be assessed over time, would be helpful to disentangle the direction of the effect. For instance, a longitudinal analysis of mental health outcomes could assess whether or not these changes by year in program or phase of graduate programs, and degree program. It could be that at different stages in the progression towards a graduate degree, depression, anxiety, and stress may look different for the same student. Furthermore, collecting data at the same time point across all participants would help control variation in students' psychological outcome that may be associated with confounding factors (e.g., presence of midterms, winter blues). Another extension of this research study would be to explore how perceived sense of belonging to undergraduate institutions, alignment with ethnic identity and psychological outcomes impact persistence for Students of Color. Since retention and increased graduation rate of Students of Color continue 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 Students of Color in a particular program. There is a possibility that there would be a difference found for students who are the only student of color in their program and students who have several other Students of Color in their program. This could also be true for the number of minoritized students at the institution. Similar to having other Students of Color in the program, having other Students of Color on campus to interact with could also be an important factor to consider. Another important background variable to consider is the influence of parent

educational level, specifically whether a parent has a graduate-level degree. Considering how coming from this background may impacts a student's ability to thrive in this environment could potentially provide useful information to this body of research.

Lastly, while having a perceived sense of school belonging and ethnic identity are two ways in which graduate Students of Color may experience a sense of belonging to a broader community or group; they could have a sense of belonging with a other groups not assessed in this study (e.g., religious or political organizations, sororities/fraternities). Also, aligned with Baumeister and Leary (1995) notion that the quality of relationships with specific individuals would be important to consider and may have an even more important influence on psychological outcomes than school belonging. More research is needed for considering the interplay between sense of school belonging and other ways in which students may experience a sense of belonging.

Understanding the experiences of graduate Students of Color at PWIs is essential to assessing their needs for successful educational attainment and improved psychological outcomes. The ability to thrive not just academically but to have a sense of belonging 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 graduate Students of Color, a psychological sense of school belonging had a significant negative relationship with depression, anxiety and stress. The findings for this sample also indicated that having a strong desire to belong can lead to increased depressive symptoms. These findings suggest that having a perceived sense of belonging to an institution is related to factors that impact mental health for

graduate Students of Color. These findings offer new information as it relates to the graduate experiences of Students of Color at PWIs.

First, it presents the factor of sense of school belonging (antecedent and psychological) as factors that impact graduate Students of Color 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 graduate Students of Color. These findings offer insight into ways to support graduate Students of Color at PWIs by exploring factors related to their perceived sense of belonging, 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 people of color in the US and the current barriers and challenges that still exist today, this study sought to explore the graduate experiences of Students of Color at PWIs. The purpose of this study was to quantitatively examine and explore sense of belonging, ethnic identity, depression, anxiety, and stress for graduate student of color and whether there are differences in these factors base on type of undergraduate institutions. Included in this exploration was the factor of sense of belonging at the core of Baumeister & Leary's, (1995) belongingness hypothesis. Results indicated that there are relationships between the various components of sense of belonging and depression, anxiety, and stress for graduate Students of Color at PWIs. Understanding the needs of graduate Students of Color at PWIs and how they may differ based on whether they perceive that they belonging to their institution or not will enhance the abilities of faculty, staff, and administrators to offer support to these students. An acknowledgement of students' mental health concerns and guiding them to the appropriate resources will also benefit these students' matriculation.

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Appendix A

Information Letter

Principal Investigator Contact: Claudia Calder
Telephone: 757.329.5364
Email: ckc0024@tigermail.auburn.edu
Auburn University
Department: Special Education, Rehabilitation, Counseling

Faculty Advisor Contact: Chippewa Thomas
Telephone: 334.844.5701
Email: thoma07@auburn.edu
Auburn University
Department: Special Education, Rehabilitation, Counseling

You are invited to participate in a research study that explores the perceived sense of belonging of students of color at predominately white institutions (PWI). The purpose of this study is to determine whether there is a relationship between Sense of Belonging, Depression, Anxiety, and Stress for Students of Color at PWIs and to determine whether students' alignment with their Ethnic Identity are factors that indicate differences in these variables.

If you choose to participate in this study, you will be asked to respond to a questionnaire regarding your sense of school belonging, alignment with your ethnic identify, experience of symptoms related to depression, anxiety and stress. The questionnaire will take approximately 25 minutes to complete. Your survey responses will be anonymous and data from this research will be reported only in the aggregate. You will also have the option of entering a drawing for a \$25 gift card!

Your participation in this study is completely voluntary. You may decide to discontinue participation at any point by simply closing your web browser. There is no risk to participating in this study beyond the normal levels of discomfort (if any) in recalling memories of your training experience. Benefits include sharing your experiences such that we gain greater understanding of the ways in which a perceived lack of belonging impacts students' mental health.

Please retain a copy of this consent form for your records. If you have questions, or concerns, please contact Claudia Calder at the email/number listed at the top of this form.

The Auburn University Institutional Review Board has approved this document on 11/1/2018. Protocol #18-453 EX 1810. If you have questions about your rights as a research participant, you may contact the Auburn University Office of Research Compliance or the Institutional Review Board by phone (334) 844-5966 or e-mail at IRBadmin@auburn.edu or IRBChair@auburn.edu.

Investigator _____

Date _____

Co-Investigator _____

Date _____

Participant's Agreement: I have read the information provided above and I voluntarily agree to participate in this research study as shown by my continuation of this survey.

Appendix B

Email Recruitment Letter

My name is Claudia Calder, and I am currently a doctoral candidate in the counselor education and supervision program at Auburn University. My dissertation seeks to explore the perceived sense of belonging and mental health outcomes of students of color at predominately white institutions. I would like to invite students in your program/organization to participate in my study.

Dr. Chippewa Thomas is the faculty advisor of the project, which is approved by the Auburn University IRB (protocol #18-453 EX 1810) on 11/1/2018.

Survey will take approximately 25 mins to complete and responses will be anonymous. Below is the link of our study survey. You will also have the option of entering a drawing for one of four \$25 gift cards.

If you would like to participate, please click it or copy and paste it into a web browser:

https://auburn.qualtrics.com/jfe/form/SV_8Hu4SImsJ3iaKSV

If you have any questions, please contact me using the information below:

Principal Investigator Contact: Claudia Calder
Email: ckc0024@tigermail.auburn.edu
Auburn University
Department: Special Education, Rehabilitation, Counseling

Also, If you have questions about your rights as a research participant, you may contact the Auburn University Office of Research Compliance or the Institutional Review Board by phone (334) 844-5966 or e-mail at IRBadmin@auburn.edu or IRBChair@auburn.edu.

For Students

Do you identify as a student of color? Are you attending a Predominately White Institution (PWI)? Please consider participating in the survey below.

My name is Claudia Calder, and I am currently a doctoral candidate in the counselor education and supervision program at Auburn University. I would like to invite to participate in my dissertation research, which seeks to explore the perceived sense of belonging and mental health outcomes of students of color at predominately white institutions.

Dr. Chippewa Thomas is the faculty advisor of the project, which is approved by the Auburn University IRB (protocol #18-453 EX 1810) on 11/1/2018.

Survey will take approximately 25 mins to complete and responses will be anonymous. You will also have the option of entering a drawing for one of four \$25 gift cards.

If you would like to participate, please click it or copy and paste it into a web browser:

https://auburn.qualtrics.com/jfe/form/SV_8Hu4SImsJ3iaKSV

If you have any questions, please contact me at ckc0024@tigermail.auburn.edu

Appendix C

Demographics Questionnaire

1. Gender
 - a. Man
 - b. Woman
 - c. Transgender Woman
 - d. Transgender Man
 - e. Other (please specify)

2. Please select the ethnicity you feel best describes your background:
 - a. African American
 - b. Asian American
 - c. Caucasian
 - d. Hispanic/Hispanic American/Chicano/a/Latino/a
 - e. Native American
 - f. Biracial/Multiracial Specify _____
 - g. Other (specify)_____

3. Sexual Orientation
 - a. Heterosexual
 - b. Bisexual
 - c. Gay
 - d. Asexual
 - e. Other (please specify)

4. Age _____

5. What is your current educational Level?
 - a. Undergraduate Student
 - b. Masters Student
 - c. Doctoral Student

6. Is your current college/university a Predominately White Institutions (PWI)?
 - a. Yes
 - b. No
 - c. Not Sure

7. What is the name of your current institution? _____

8. What Region is your college/university located in?
 - a. New England Region.
 - b. Mid-Atlantic Region.
 - c. Southern Region.
 - d. Mid-West Region.
 - e. South-West Region.

- f. Rocky Mountains.
 - g. Pacific Coastal Region.
9. FOR GRADUATE STUDENTS: At what type of institution did you gain your undergraduate education?
- a. Predominately White Institutions (PWI)
 - b. Historically Black College/University (HBCU)
 - c. Minority Serving Institution (MSI)
 - d. Hispanic Serving Institution (HSI)

Appendix D

Multigroup Ethnic Identity Measure - Revised (MEIM-R) (6-items)

In this country, people come from a lot of different cultures and there are many different words to describe the different backgrounds or ethnic groups that people come from. Some examples of the names of ethnic groups are Mexican American, Hispanic, Black, Asian-American, American Indian, Anglo-American, and White. Every person is born into an ethnic group, or sometimes two groups, but people differ on how important their ethnicity is to them, how they feel about it, and how much their behaviors is affected by it. These questions are about your ethnicity group and how you feel about it or react to it.

Please fill in:

In terms of ethnic group(s), I consider myself to be

- 1- I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.
- 2- I have a strong sense of belonging to my own ethnic group.
- 3- I understand pretty well what my ethnic group membership means to me.
- 4- I have often done things that will help me understand my ethnic background better.
- 5- I have often talked to other people in order to learn more about my ethnic group.
- 6- I feel a strong attachment towards my own ethnic group.

Response scale:

(1) Strong disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

My ethnicity is:

- (1) Asian/Asian American
- (2) Black or African American
- (3) Hispanic or Latino
- (4) White, Caucasian, European, not Hispanic
- (5) American Indian
- (6) Mixed: parents are from two different groups

(7) Other (write in): _____

My father's ethnicity is (use numbers above): _____

My mother's ethnicity is (use numbers above): _____

Appendix E

Depression Anxiety Stress Scale (DASS; 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 (e.g., 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 (e.g., 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	0 1 2 3

	(e.g., elevators, traffic lights, being kept waiting)	
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 (e.g., 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 (e.g., 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	0 1 2 3

	to be hopeful about	
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 (e.g., in the hands)	0 1 2 3
42	I found it difficult to work up the initiative to do things	0 1 2 3

APPENDIX F

Sense of Belonging Instrument SOBI-P & SOBI-A Hagerty and Patusky, 1995

SOBI-P

1. I often wonder if there is any place at this institution where I really fit in.
2. I am just not sure if I fit in at this institution.
3. I would describe myself as a misfit in this institution.
4. I generally feel accepted at this institution.
5. I feel like a piece of a jig-saw puzzle that doesn't fit into the puzzle (i.e. the institution).
6. I would like to make a difference to the institution, but I don't feel that what I have to offer is valued.
7. I feel like an outsider at this institution.
8. I am troubled by feeling like I have no place at this institution.
9. I could disappear for days and it wouldn't matter to people at my institution.
10. In general, I don't feel a part of this institution.
11. I feel like I observe the university life rather than participate in it.
12. If I died tomorrow, very few people from my institution would come to my funeral.
13. I feel like a square peg trying to fit into a round hole (i.e. the institution).
14. I don't feel that there is any place where I really fit in this institution.
15. I am uncomfortable that my background and experiences are so different from others attending this institution.
16. I could not show up to school for days and it wouldn't matter to people at my institution.
17. I feel left out of things that occur at the institution
18. I am not valued by or important to this institution.

SOBI-A

1. It is important to me that I am valued or accepted by others.
2. In the past, I have felt valued and important to others.
3. It is important to me that I fit somewhere in this world.
4. I have qualities that can be important to others.
5. I am working on fitting in better with those around me.
6. I want to be a part of things going on around me.
7. It is important to me that my thoughts and opinions are valued.
8. Generally, other people recognize my strengths and good points.
9. I can make myself fit in anywhere.

1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree