MENTORING AND ACADEMIC PERSISTENCE AMONG BLACK COLLEGE

STUDENTS

by

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A DISSERTATION

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DISSERTATION ABSTRACT

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The college graduation rate for Black students remains below that of the national average in the US. This may be due in part to barriers that Black students encounter while navigating academic environments. Research suggests that discrimination and students' experience of the university as unwelcoming may impact their intentions to persist through graduation. A growing body of literature suggests that mentoring may be beneficial in buffering the effects of these experiences and facilitating college graduation. Framed within Critical Race Theory and Social Cognitive Career Theory, the aims of this study were to understand and describe mentoring supports for Black college students, and to examine the role of contextual factors that influence their college self-efficacy and persistence intentions. Based on the literature, I hypothesized that there would be indirect relationships between independent variables of perceived discrimination and perceptions of the university environment and the outcomes of college self-efficacy and persistence intentions through ethnic identity and mentoring. Structural equation modeling techniques were used to test the proposed model in a sample of 206 Black college students. Results associated with the first research aim include mentoring benefits for Black students who lived on campus and who utilized more methods to communicate with mentors. Black students who indicated having more mentors reported more

psychological and emotional support and expressed stronger agreement with having a role model. Results associated with the second research aim include that the hypothesized structural model was a good fit for the data and accounted for 32% of the variance in college self-efficacy and 20% of the variance in persistence intentions for Black students. Bootstrap analyses indicated that there were indirect effects of perceptions of the university and perceived discrimination on college self-efficacy and persistence intentions through mentoring and ethnic identity. Findings suggest that mentoring and ethnic identity may serve as protective factors against the effects of an unwelcoming college environment and perceived discrimination. The use of a cross-sectional design limits directional and causal inferences. Future research should assess the impact of mentoring relationships over time for Black college students. Study strengths, limitations, and implications for research and practice are discussed.

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DEDICATION

I dedicate this dissertation to the Black students who often feel like making it to and

through college is impossible. I hope to be one of those mentors who help you to keep

dreaming and pushing toward your goals.

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CHAPTER I

INTRODUCTION

Only 40% of Black students obtain a bachelor's degree within six years of initial enrollment in college (Synder & Dillow, 2015). This highlights continued need for research on factors that facilitate and hinder college persistence and degree attainment. Mentorship can result in higher retention rates, improved grade point averages, and a more thorough understanding of individual academic and career goals (Eagan, Sharkness, Hurtado, Mosqueda, & Chang, 2011). Although racial discrimination may be less explicit than in the past, data suggests that Black college students encounter discrimination daily (Banks & Kohn-Wood, 2007; Cokley et al., 2017). These experiences have negative consequences for academic engagement and performance (Solorzano, Ceja, & Yosso, 2000).

Black students experience negative consequences from bias and discrimination and may have difficulty adjusting to the campus environment. This is particularly true of students attending predominantly White institutions (McClain et al., 2016). Examining constructs that protect against the effects of racial discrimination among college students is important given the likelihood that Black college students will confront racism and unequal privilege in academic settings. Understanding protective factors for students is also important because college is a time when they are likely to develop abstract and analytical thinking that contributes to their conceptualization of race and discrimination (Hughes et al., 2006). In this study I aim to investigate the role of mentoring and ethnic identity development in combating the impact of racial discrimination on the academic development of Black college students.

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In the following sections I describe the impact of mentorship on the academic experiences for Black college students. I begin by reviewing definitions of mentoring found in the literature. Next, I summarize the three major reviews of all of the mentoring literature to date, discuss literature on the perceptions of mentoring, mentoring outcomes and explain future directions for the studying mentoring and undergraduate students. Additionally, I describe contextual factors that influence Black college students, such as the campus environment and discrimination experiences. Further, I discuss the role of ethnic identity development in the lives of Black students. Finally, I explain how critical race theory and social cognitive career theory, the theoretical frameworks for this study, can be used to better understand the academic environment and development for African American/Black college students.

Important to note is the use of the term Black/African American. For the purpose of this study, Black/African American refers to descendants of African origin, including individuals of Caribbean descent who identify as Black. The terms African American/Black and Black are used interchangeably throughout this paper.

Defining Mentoring

In this paragraph, I describe the various ways in which mentoring has been understood in the higher education literature as well as summarize suggestions found in the literature. Reviews of the mentoring literature have highlighted inconsistencies in definition and conceptualization of the term "mentoring" (Crisp et al., 2017; Crisp & Cruz, 2007; Jacobi, 1991). Jacobi (1991) highlighted 15 different definitions of mentoring across the fields of education, management, and psychology. She described the result of the inconsistent definitions as a continued lack of clarity about the antecedents,

outcomes, characteristics, and mediators of mentoring relationships. She concluded that there are various manifestations of mentorship, characterized by factors such as duration and intensity. Jacobi (1991) described mentors as those who provide emotional and psychological support, career advice, and role modeling in the context of a relationship that is often mutually beneficial. Kram (1985) provided a definition that has been often used by researchers, describing mentoring as a relationship between two individuals in which a more experienced person provides developmental support to a less experienced person. Others have posited that mentoring requires faculty to engage in a dynamic emotionally connected and reciprocal relationship (Johnson & Zlotnik, 2005). A mentor has been defined, in the context of college, as an individual who provides guidance, support (e.g. emotional, social, and/or academic), and networking opportunities during students' academic careers (Brown, 2005; Castellanos, et al., 2007; Tenebaum, Crosby, & Gliner, 2001).

Despite the variation in defining mentoring in the literature, there appears to be some consensus in describing characteristics of mentoring relationships (Crisp & Cruz, 2007; Jacobi 1991). These common elements include: a focus on growth and development; provides professional, career, and emotional support; the relationship is personal and reciprocal; and mentors have more experience, influence, or achievement within the academic environment. In this study, I use Nora and Crisp's (2007) definition that describes a mentoring relationship as one that includes: 1) psychological and emotional support, 2) degree and career support, 3) academic subject knowledge support, and 4) the existence of a role model. The next section describes three major reviews of the literature on mentoring undergraduate students.

Previous Reviews of Mentoring Literature

Although the mentoring literature base has grown steadily over the past few decades, mentoring research and theory lag behind program development and implementation at the local, state, and national levels (Crisp, Baker, Griffin, Lunsford, & Pifer, 2017). Crisp and colleagues (2017) highlight the importance of comprehensive reviews that synthesize the growing number of research articles focused on mentoring undergraduate students. Literature reviews can be helpful in aiding practitioners and researchers to evaluate large bodies of literature and to identify strategies for designing, implementing, and evaluating mentoring efforts. To date, there have three major reviews of literature pertaining to mentoring undergraduate students. In this section, I summarize the work of Jacobi (1991), Crisp and Cruz (2009), and Crisp, Baker, Griffin, Lunsford, and Pifer (2017).

In a foundational review, Jacobi (1991) highlighted the relationship between mentoring and undergraduate student development and academic success. She critically reviewed the mentoring literature published between the mid-1970s and late 1980s/ early 1990s within the fields of education, management, and psychology. Her review focused on only the literature within these fields that are relevant to undergraduate academic success, theoretical foundations, or methodological approaches. The first section of her review called attention to the absence of a widely accepted operational definition of mentoring.

The second focus of the Jacobi (1991) review centered on the methodological shortcomings found in existing empirical research about the effects of mentoring on academic success. Jacobi (1991) identified a lack of a theoretical or conceptual

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foundation to explain the proposed relationships between mentoring and academic success. Echoing Cook and Campbell (1979), she explained the need for quasi-experimental research that includes cross-sectional and longitudinal components so as to better understand the direct effects of mentoring over time, including to determine how long it takes for mentoring effects to emerge and to know how long they last. Further, Jacobi (1991) called for cross-sectional designs that compare outcomes associated with different mentoring functions (e.g. provision of emotional support compared to direct assistance), patterns of interactions (e.g. frequent interactions compared to occasional interactions), and relationship characteristics (e.g. sex and/or ethnicity of the mentor and mentee). A third focus of her critique was to highlight inconsistencies in instrumentation used in studies. Jacobi (1991) explained that the variation in instrumentation is closely related to the lack of consensus about definitional and conceptual issues of mentorship. Additionally, she highlighted problems concerning external validity. For example, she noted that much of the research to this point had been based on data collected within a single institution, often from students in a single department or college, and often from White male students (Jacobi, 1991). She concluded with recommendations for using theoretical models that could be used to explain the linkage between mentoring and undergraduate student academic success, research designs and improved instrumentation noted the need for mentoring research that focused on the experiences of women and students of color.

Eighteen years later, Crisp and Cruz (2009) conducted the second major review of mentoring literature conducted between 1990 and 2007. Crisp and Cruz (2009) aimed to re-frame and update the definition and characteristics of mentoring as described by Jacob

(1991) and to critique the empirical literature on mentoring college students. Crisp and Cruz (2009) conducted two literature reviews and incorporated their findings into one article. The first was a theoretical review focused on mentoring in the education, business, and psychological literature. The second focused specifically on studies that examined the impact of mentoring college students on an aspect of student success (e.g. retention, grades, and social integration). They found that many of the reviewed studies were evaluations of programs that established mentoring pairs, and that few assessed the prevalence or outcomes associated with natural mentoring relationships. They extended Jacobi's (1991) review by identifying persistent conceptual, methodological, and theoretical limitations in the literature. These findings highlighted continuing inconsistencies in definitions of mentorship. Crisp and Cruz identified over 50 definitions that varied in scope. In some instances, mentoring referred to a specific set of activities conducted by a "mentor" (Bowman & Bowman, 1990; Brown et al., 1999; Campbell & Campbell, 1997; Freeman, 1999; Watson, 1999). Other researchers had defined mentoring in terms of a concept or process (Anderson and Shannon, 1988; Blackwell, 1989, Roberts, 2000). For example, Blackwell (1989) defined mentoring as "process by which persons of a superior rank, special achievements, and prestige instruct, counsel, guide, and facilitate the intellectual and/or career development of persons identified as protégés" (p.9). In contrast to Jacobi (1991) and although improvement is still needed, Crisp and Cruz (2009) noted that by the time of their review, researchers had made a broader attempt to examine the impact of mentoring on women, ethnic minorities, lesbian, gay, bisexual, trans, and queer, first generation college students and "at risk" students. Although research had expanded to include different student populations at 4-

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year colleges, external validity was still limited due to small or narrow (departmental or institutional) sample sizes and participant attrition (Aagaard & Hauer, 2003; Anagnopoulos, 2006; Bernier et al., 2005; Crawford et al., 1996; Paglis et al., 2006; Santos & Reigalos, 2005). Consistent with Jacobi (1991), Crisp and Cruz (2009) highlighted a lack of theoretically based measurements used to assess students' mentoring experiences for many of the quantitative studies they reviewed. Additionally, they highlighted the limited attempts to control for confounding factors, such as other forms of support.

In the years following Crisp and Cruz's (2009) review, the mentoring literature has continued to grow. There were 109 empirical studies published between 2008 and 2015 that focused on mentoring undergraduate students. Crisp and colleagues (2017) provide the only systematic review of the mentoring literature since 2007. In 2014, Susan Gershenfeld published a review including only the literature on formalized undergraduate mentoring programs from 2008 to 2012. Crisp and colleagues' (2017) review included literature on formalized mentoring programs as well as naturally forming mentoring relationships. They aimed to identify and understand how empirical knowledge and theory have advanced since Crisp and Cruz (2009). Crisp and colleagues (2017) found that recent literature provided a more complex understanding of how mentoring can promote social justice and equity in higher education by providing a focus to students who have been understudied and underserved in higher education. More recent research has incorporated theory and has included attention to the characteristics of mentoring relationships and perceptions and experiences of mentoring by undergraduate students.

Though the review highlighted improvements in the literature, Crisp and colleagues (2017) identified consistent conceptual, theoretical, and methodological limitations remaining in the research. To address the continued ambiguity and inconsistency in defining and conceptualizing mentoring, Crisp and colleagues (2017) suggested that undergraduate mentoring relationships may be differentiated by: a) relationship features (e.g. intent, purpose, intensity, duration), b) sources of the relationship (e.g. faculty, staff, graduate student, peer), c) relationship structure (e.g. individual one on one, group, e-mentoring, natural relationships), d) program types (e.g. orientation and retention, mentoring programs targeting specific populations, peer programs, undergraduate research and honors programs), and e) forms of support provided to the student (e.g. academic subject knowledge support, psychological and emotional support, career support, degree support). To attend to the enduring limitation of the lack or underdevelopment of theory in the mentoring literature, Crisp and colleagues (2017) asserted that theoretical models that examine the impact of identity on defining mentorship, forms of engagement between mentors and mentees, and the needs of mentees are important for advancing research and practice. The authors offered a conceptual framework that identifies connections between developmental relationships, students' characteristics, educational contexts, relationship features, forms of support and potential effects on students' college experiences and outcomes. Additionally, Crisp and colleagues (2017) identified evidence-based practices to serve as models for program design, implementation, and evaluation for mentoring programs. Some of the specific findings associated with mentoring are presented in the following sections.

Forms of Mentoring within Higher Education

A variety of individuals provide mentoring supports, particularly within a higher education context (Crisp et al., 2017). Faculty members, staff members, graduate students and peers are all important to college student success (Pascarella & Terezini, 2005). Although many individuals can provide support for students as they navigate college, mentoring relationships are those that include psychological and emotional support, academic subject knowledge support, degree and career support, and role modeling. Faculty members have an influence on student learning and engagement (Kim & Sax, 2009; Komarraju et al., 2010; Umbach & Wawrzynski, 2005). Cole and Griffin (2013) highlighted the importance of examining types of student-faculty interactions in order to promote a better understanding of these interactions and their impact on student outcomes. In their monograph, Crisp and colleagues (2017) discuss two categories of faculty-student interactions: academic advisor and research supervisor. An advisor is expected to share complete and accurate information and provide guidance related to academic matters and support toward academic planning (Baker & Griffin, 2010). A supervisor helps undergraduate researchers understand and engage in the research process and support the development of time management, writing, and presentation skills (Baker 2016).

Staff members, who sometimes serve as mentors, provide critical supports as students transition to college and work toward degree attainment (Crisp et al, 2017). Student services personnel are particularly important to student development as they often carry out an institution's approach to student support (Pascarella & Terenzini, 2005; Rickinson, 1998). Crisp and colleagues also discussed the role of graduate students in

providing mentorship to undergraduate students as instructors or teaching assistants. In these cases, undergraduate students meet with graduate students for support during office hours. Additionally, graduate students provide support as undergraduates engage in research, offering guidance on lab techniques, data analysis and/or presenting findings (Crisp et al., 2017).

College students may also gain guidance and support in the form of mentorship from their peers. Peer interactions can impact the decision to pursue a college degree just as a lack of peer support negatively impact college adjustment (Dennis, Phinney, Chuateco, 2005). Peer relationships are an important factor that contributes to mentorship and retention of racial ethnic minority students (Sloane, 2010). Peer support can come in the context of formalized programs. These programs facilitate mentoring relationships with peers who are slightly more experienced (Terrion & Leonard, 2007). For Black college students, formal and informal peer mentoring relationships have been associated with higher levels connectedness and academic adjustment (Graham & McClain, 2019).

Perceptions of Mentorship

Scholars have examined the way mentoring is perceived and the functions and roles that mentors fulfill in supporting undergraduate students' academic trajectories. Extending previous reviews that highlighted the lack of theory guiding much of the mentoring research, Nora and Crisp (2007) developed a conceptual framework that described four latent constructs that explain how mentoring may be perceived by undergraduate students. After reviewing previous literature, Nora and Crisp (2007) identified four domains of mentoring: 1) psychological and emotional support, 2) goal setting and career paths, 3) academic subject knowledge, and 4) the existence of a role

model. Based on this conceptual framework, Crisp (2009) developed the College Student Mentoring Scale (CSMS) to measure the aforementioned forms of mentoring support. This scale has been used to measure mentoring perceptions among first-year college students, community college students, and students attending Hispanic Serving Institutions (Crisp & Cruz, 2010; Henry et al., 2011).

Scholars have explored the activities that mentors engage in and how the various roles impact equitable outcomes. In a case study that examined one college's approach to defining mentoring functions, D'Abate (2009) found that faculty defined mentoring roles as teaching, sharing information, advising, providing feedback and setting academic goals. In this same study, both faculty and peer mentors agreed that roles such as modeling, affirming and befriending might be best provided by a peer mentor (D'Abate, 2009). A qualitative study by Bower and Bonnett (2009) revealed that undergraduate student interns described five traits that characterized faculty mentors who taught a physical education course: a role model, accepting and confirming, a counselor, a fun personality, and a coach. In their review of the mentoring literature, Crisp and colleagues (2017) reported that they found few articles that described strategies or behaviors that mentors implement to fulfill these functions. Notably, a mixed-methods study conducted by Lunsford (2011) identified effective mentors as those who provided career support to college students by taking them to conferences, involving them in research, and connecting them to other faculty members.

Mentors' and students' perceptions of the mentoring relationship are not always in sync. Holt and Berwise (2012) aimed to evaluate the types of supports peer mentors provided to first year students, examine the relationship between mentor and mentee

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perceptions of supports, and determine if any discrepancies in mentor-mentee ratings were associated with mentee academic outcomes. Mentors reported providing a higher level of support than mentees perceived to have received from mentors (Holt & Berwise, 2012). Similarly, a qualitative study by Behar-Horenstein, Roberts, and Dix (2010) found that although professors suggested that they were regularly and frequently available, students reported that they were often mentored by postgraduates, technical assistant and other students because meetings with their faculty mentors were infrequent and they described the mentors as distant at times. Despite these discrepancies, students and mentors reported mentoring benefits of increase technical expertise and communication skills (Behar-Horenstein, Roberts, & Dix, 2010).

Mentoring Outcomes

Both the mentor and the mentee benefit from mentoring relationships. Amaral and Vala (2009) examined the ways in which peer mentors who had previously taken an introductory chemistry class benefited from mentoring other undergraduate students who were currently enrolled in the course. They found that peer mentors earned higher grades in a required general chemistry course, enrolled in more chemistry courses after completing the general chemistry course, and were less likely to withdraw from chemistry courses than their counterparts. In a study involving first year undergraduate paramedic students, Hryciw, Tangalaskis, Supple, and Best (2013) found that peer mentors reported improvement in leadership and teaching skills, and mentees reported improved subject knowledge and better time management skills after participating in a peer mentoring program.

Faculty behavior and attitudes influence student learning and engagement (Umbach & Wawrzynski, 2005). Students who interact with faculty often are more likely to have higher academic aspirations and tend to have more educational success (Person, 1993). Mentoring is positively associated with academic progress, and degree completion (Crisp et al. 2017). Kendricks, Nedunuri, and Arment (2013) noted that students who participated in a STEM scholars program reported that mentoring was the largest contributor to their academic success. Fuentes, Ruiz Alvarado, Berdan, and DeAngelo (2013) sought to understand the factors that contribute the benefits of faculty mentorship of undergraduate students. Through the use of structural equation modeling, researchers found that early interaction with faculty facilitated a socialization process that lead to more meaningful interactions with faculty later in college (Fuentes, Ruiz Alvarado, Berdan, & DeAngelo, 2013).

For racial/ethnic minority students, mentorship has been associated with increased positive perceptions of cultural fit (Gloria et al., 2005; Castellanos et al., 2016), retention (Good et al., 2000), academic goal definition, college adjustment (Santos & Reigadas, 2002), college and life satisfaction (Castellanos et al., 2016) and a decreased sense of imposter syndrome (Lin, Her, & Gloria, 2015). After controlling for pre-college factors, transition factors, and academic and social factors, Tovar (2014) found that time spent with faculty and counselors discussing career issues was positively related to Latinx community college student's academic performance.

Several studies have detailed the mentoring experiences of Black/African American college students specifically. Research conducted by Ishiyama (2007) suggested that African American students participating in a McNair Scholars program, in

which they are paired with a faculty mentor, were more likely than their White counterparts to value personal connections (e.g. discuss personal concerns, be a good listener, be a friend) in a mentor. African American students were also more likely to describe psychological benefits, such as increased confidence and increased comfort with faculty members. Interestingly, after participating in the program for a year, African American participants were less likely to consider the personal connection as important and indicated more emphasis on research support (Ishiyama, 2007). Dahlvig (2010) provided a qualitative, grounded examination of the experiences of five African American undergraduate women attending a predominantly White Christian institution. Findings suggested a connection to mentors was helpful in mitigating student experiences of isolation. Further, students described their relationships with African American faculty as helpful in dealing with racial issues and offering respite and encouragement. Participants described a common understanding among themselves and African American faculty and staff that made the students feel understood.

Brittain, Sy, and Stokes (2009) explored the experiences of 183 African American college students who were participants and non-participants in mentorship programs at a large state university in Southern California. Students were asked to complete a survey that asked about their college experience, with a final open-ended question that prompted students to describe their perception of mentoring on campus or describe why they did not participate in a mentoring program. Survey results indicated the participants did not differ in their experiences of common student life events, social support, and well-being. Reponses to the open-ended question from those who are participated in mentoring programs described mentoring benefits in the form of opportunities for personal growth,

motivation for success, social support, emotional support, positive feedback, and access to academic resources. Responses from those not in a mentoring program centered on three themes: being unaware of mentoring programs on campus (30%), lacking time to participate due to work and school obligations (47%), and choosing to not participate in a program (17%). Mentorship can provide benefits for all undergraduate students, but African American, Latinx, and American Indian/ Native students may not have equitable access to mentoring supports relative to their White counterparts (Crisp et al., 2017; Rios-Aguila & Deil-Amen, 2010; Tovar, 2014).

Summary of the Mentoring Literature

Three major reviews have detailed the literature on mentoring undergraduate students published since the mid-1970s (Crisp and Cruz, 2009; Crisp et al., 2017; Jacobi, 1991). Recent mentoring literature has incorporated the application of theoretical frameworks and has focused on different forms and perceptions of mentoring. Mentoring relationships can differ across relationship features, sources of the relationship, structure, program types, and forms of support. Also emerging is a more complex understanding of how mentoring can promote equity in higher education, particularly for student populations that have been traditionally underserved, such as Black/African American college students (Crisp et al., 2017).

Despite the progress shown in the mentoring literature over the years, there are still gaps in literature related to the empirical and theoretical understanding of mentoring (Crisp et al., 2017). There continues to be a lack of a consistent definition of mentoring in the literature. Too often mentoring is used as an all-encompassing term that refers to supportive relationships (Dawson, 2014). There is much to be understood about the

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aspects of mentoring that are most beneficial and under which conditions mentoring is most effective. Research is needed to better understand the role of program design and educational context in shaping mentoring benefits and outcomes (Crisp et al., 2017). Scholars should assess of the origin of student mentoring relationships and potential for differential outcomes (Castellanos et al., 2016). Future research should incorporate theory when attempting to interpret and understand mentoring relationships and the effects of mentoring (Crisp et al., 2017; Crisp and Cruz, 2009; Jacobi, 1991).

There is a need for continued research focused on the mentoring experiences of undergraduate students of color. Castellanos and colleagues (2016) argued that future research should investigate mentoring and cultural fit to understand college and life satisfaction and promote academic persistence and matriculation for racial/ ethnic minority college students. Acknowledging that students of color may have different access to opportunities (Feagin, Vera, & Imani, 1996), experiences (Gloria & Castellanos, 2003), and fit within higher education (Cress, 2008), studies should examine the role of student groups and mentorship (e.g., whether group membership is associated with increased confidence to seek out mentors). Additionally, Castellanos and colleagues (2016) highlight the need for further examination of mentoring benefits for specific racial/ethnic minority groups.

Few studies describe the experiences of Black/African American college students' mentoring experience. In the present study I focus on mentoring relationships among Black college students, and specifically the relationship between mentoring, college self-efficacy and academic persistence intentions. There are other important variables that may interact with mentoring, college self-efficacy, and/or persistence among Black

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students. As such, in the following paragraphs I first describe factors that impact Black students' academic outcomes, particularly, persistence and retention. I also explain the ways in which three key constructs influence the academic environment and outcomes for Black students: perceptions of the university climate, discrimination experiences, and ethnic identity development. Mentoring relationships interact with these facets of the college experience for Black college students and may mediate the relationship between these factors and academic persistence.

Black College Students

According to a 2017 National Student Clearinghouse report, only 38% of Black/African American students complete a bachelor's degree or certificate within six years of initial enrollment in a postsecondary institution (Shapiro et al., 2017). The review of the literature on mentoring suggests that it may have benefits for retention and persistence of Black college students. Now I will describe important influences on Black college students that highlight the potential value of mentoring and that influence academic persistence. The experiences of Black college students are impacted by the context of the institutions. African American students at predominantly White institutions (PWIs) experience exclusion, racial discrimination and alienation (Carter, 2006). Additionally, Black students at PWIs face racial conflict, more pressure to conform to stereotypes, less equitable treatment by faculty and staff, stress related to fitting in, cultural conflict, help-seeking, coping, lack of resources, mistrust in the institution, racism, and social support (Ancis, Sedlacek, & Mohr, 2000; Watkins, Green, Goodson, Guidry, & Stanley, 2007). Black students at PWIs often feel anxiety and fear about being the only or one of few African Americans in a particular environment (Smedley, Myers,

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Harrell, 1993). In this section, I discuss the impact of two contextual factors - students' perceptions of the university environment and their experience with discrimination- on their collegiate experience. Further, I discuss the role of ethnic identity development in outcomes for Black students.

Perception of the University Environment

Perceptions of the university environment refer to students' experience of the available resources, viewing the university as welcoming, and their experience of being valued at the institution (Gloria & Kurpius, 1996). For students of color, this also includes their assessment of the campus racial climate. A positive campus racial climate is said to include at least four elements: (1) inclusion of students, faculty, and staff of color; (2) curriculum that reflects historical and current experiences of people of color; (3) recruitment and retention programs targeted toward students of color; and (4) a mission statement that reinforces that institution's commitment to inclusion and diversity (Carroll, 1998; Guinier, Fine, & Balin, 1997; Hurtado, 1992; Hurtado, Milem, Clayton-Pedersen, & Allen, 1998). Perceptions of a positive racial climate have been positively related to minority students' sense of belonging (Locks, Hurtado, Bowman, & Oseguera, 2008). Students of color are more likely to be adversely impacted by a negative campus racial climate. A negative perception of the campus racial climate has been associated with reduced student satisfaction and lowered academic performance amongst all students of all racial/ethnic backgrounds and more pronounced among racial/ethnic minority students (Fisher, Wallace, & Fenton, 2000; Miller & Sujiparapitaya, 2010). Negative faculty interactions, including covertly expressed attitudes, may contribute to students perceiving the campus environment as less welcoming (Rogers & Molina,

2006). University cultures that promote values, norms, beliefs, and behaviors associated with White Americans may place students with different cultural heritages (i.e. African American/ Black students) at a disadvantage. This can hinder adjustment to the university and decrease the likelihood of college persistence (Castillo et al., 2006). A positive perception of the university environment predicts college persistence attitudes among African American students (Gloria, Robinson-Kurpius, Hamilton, & Willson, 1999).

At PWIs, positive diverse peer interactions and a sense of community have been strongly associated with perceptions of a positive campus racial climate among African Americans and Asian American students (Park, 2009). Using the College and University Community Inventory (CUCI), Holmes, Sullivan, and Letzring (2002) examined the relationship between a perceived sense of community and intent to re-enroll in college the following year among African American freshmen college students attending PWIs. There was not a significant difference in perceived sense of community between those who did and those who did not plan to re-enroll the following fall. However, researchers did find a significant relationship between perception of the university environment and intent to re-enroll on three items of the mission and curriculum subscale of the CUCI, which assessed students' perceptions of their university's commitment to academic excellence, creation of a supportive environment for learning, and the existence of well-defined and published core values (Holmes, Sullivan, and Letzring, 2002).

In another study, Wei, Ku, and Liao (2011) examined whether perceptions of the university environment mediated the association between minority status stress and college persistence attitudes, after controlling for perceived general stress, among 160 Asian American, African American, and Latino students attending a PWI. Using a path

analysis, they found that positive perception of university environment was positively associated with college persistence attitudes for African American, Asian American, and Latino participants (Wei, Ku, & Liao, 2011). This is consistent with past findings in which university comfort, social support, and self-beliefs significantly predicted persistence decisions among African American (Gloria et al., 1999), Latino/a (Castillo et al., 2006) and Asian American undergraduate students (Gloria & Ho, 2003).

Discrimination Experiences

Discrimination is a common experience in the lives of Black adolescents (Chavous, Rivas-Drake, Smalls, Griffin & Cogburn, 2008), emerging adults (Bynum, Burton, & Best, 2007; Sellers & Shelton, 2003), and adults (Deitch et al., 2003). Racial discrimination is embedded within structures of American society, including academic institutions, and can result in detrimental consequences for African Americans (Utsey, 1998). Clark, Anderson, Clark, and Williams (1999) described racism as "beliefs, attitudes, institutional arrangements, and acts that tend to denigrate individuals or groups because of phenotypic characteristics or ethnic group affiliation" (p.805). Membership in a racial/ethnic group that has been historically oppressed may impact the ways in which Black students experience their environment (Pieterse, Carter, Evans, & Walter, 2010). As such, discrimination experiences may be related to perceptions of the university environment, and specifically the racial climate of the university, but these constructs are distinct. Harrell (2000) found that Black people experience stress from discrimination across interpersonal (i.e. direct and vicarious experiences of racism), collective (i.e. academic achievement, unemployment rates), cultural symbolic (i.e. news, media), and sociopolitical contexts (i.e. discussions about race in political, legislative, and

institutional contexts). Continued exposure to discrimination can be a detriment to Black college students.

Utsey and Ponterotto's (1996) research was foundational to understanding and identifying cultural racism, institutional racism, individual racism, and collective racism as components of race-related stress. In their research focused on Black adults, Utsey and Ponterotto (1996) defined race-related stress as the effects of daily occurrences of racism and discrimination that Black people experience uniquely from other racial/ethnic populations.

Racial discrimination threatens mental health, self-esteem, and academic motivation for African American students (Wong et al., 2004). Students experiencing discrimination are more likely to experience negative mental health and have lower grade point averages than students who report fewer discrimination experiences (Brown & Lee, 2005). Racial discrimination experiences have been connected to somatic complaints such as headaches, as well as negative affect, depression, and anxiety in Black college students (Brown-Reid & Harrell, 2002). Discrimination can result in social isolation and ultimately create roadblocks to academic persistence (Baldwin, Chambliss, & Towler, 2003). The cumulative impact of living in an environment or on a college campus in which racism is perpetuated can affect the health, well-being, and self-esteem of Black students (Solorzano, Ceja & Yosso, 2000). Feelings of isolation, racial segregation, and low expectations from instructors, along with racial microaggressions (Cokely et al., 2017; Lewis & Neville, 2015) negatively impact the self-esteem and mental health of ethnic minority students. Based on these findings, I expect that Black college students

who report more perceived discrimination experiences will have weaker intentions to persist in college.

Given the many adverse consequences of racism, its eradication is ideal. As scholars and activists work to identify methods to eliminate racism, it is critical to continue research on factors that buffer and limit its negative consequences. Racial discrimination places African Americans at risk for psychological distress, however, many are resilient (Neblett et al., 2008). One factor that may contribute to African Americans' ability to persist and thrive in the face of racial discrimination is mentorship. As noted earlier, Black students may receive support for coping with racial discrimination from Black faculty mentors (Dahlvig, 2010). Mentorship has the potential to be one of these factors by facilitating cultural socialization messages that encourage cultural pride and promote cultural knowledge, such as African American history and traditions (Hughes et al., 2006). Gloria and colleagues (1999) found that social and cultural support were important factors that contributed to academic persistence and success among African American college students. Positive racial socialization messages facilitated through parents or caregivers may buffer the negative effects of discrimination on Black youth (Hughes et al., 2006; Neblett et al., 2008), and it is possible that these messages can be communicated by other individuals, such as mentors, who serve as significant roles in students' lives (Brown, 2008). Mentoring may help Black college students cope with the stress of racial discrimination. As such, I expect that mentoring will mediate the relationship between discrimination experiences and the academic persistence intentions of Black college students. Specifically, I expect that the presence of

positive mentoring relationships will reduce the strength of the relationship between discrimination and academic persistence intentions.

Another factor that may buffer the effects of race-related stress on Black students' academic persistence is ethnic identity. Next, I describe key findings associated with ethnic identity and Black college students.

Ethnic Identity

Ethnic identity is understood as a multifaceted conceptualization of the self that includes positive attitudes toward an individual's ethnic group membership and commitment to one's ethnic group (Phinney, 1990). Ethnic identity is characterized by a sense of commitment and belonging to an ethnic group, positive feelings about the group, and behaviors that indicate involvement with the ethnic group (Phinney, 1992; Phinney, 2003; Roberts et al., 1999; Avery et al., 2007). Phinney (1992) defined ethnic identity as the "ethnic behaviors that individuals practice, along with their attitudes toward their ethnic group" (p. 64). Additionally, self-identification and ethnic behaviors and practices are components of ethnic identity (Phinney, 1992). Self-identification refers to the ethnic label that people use to describe themselves. Ethnic behaviors and practices refer to an individual's participation in social activities with members of an ethnic group as well as engagement in cultural traditions. Ethnic identity development is not a static process, but a dynamic one that occurs within the context of an individual's ecology.

Ethnic identity forms as part of a developmental process that occurs within a social and historical context (Atkinson, Morten, & Sue, 1983; Cross, 1978; Parham & Helms, 1985). This process involves exploration of the meaning of one's ethnicity and can lead to a secure sense ethnic group membership (Phinney, 1989; Phinney & Alipuria,

1990). Ethnic identity development is a process facilitated by examination of one's membership in an ethnic group (Cross, 1978; Phinney, 1990). This development is characterized by stages – unexamined, examination, and integration. Those in the unexamined stage have not explored or have given little thought to their ethnic identity. Individuals in this stage may hold a negative view of their ethnic group. The integration stage refers to those who have explored their identity and have developed meaning and appreciation for their ethnic background (Phinney, 1990; Williams, Chapman, Wong, & Turkheimer, 2012). Cultural socialization can facilitate transition through stages of ethnic development. Cultural socialization refers to emphasizing racial/ethnic pride, cultural history, and traditions and parents are primary sources of cultural socialization (Aldana & Byrd, 2015; Anyiwo, Bañales, Rowley, Watkins, & Richards-Schuster, 2018). Mentors, and particularly mentors who are members of racial/ethnic minority groups, may also foster cultural socialization via their interactions with ethnic minority students (Griffith, Hurd, & Hussain, 2019). As students reflect on their ethnic identity, they may encounter cultural socialization messages from mentors that may facilitate their transition through the stages of development (Adams, 2014; Chapman-Hilliard et al., 2016; Hughes et al., 2006). Mentors may serve at catalyst for this developmental process via modeling, critical conversations and support for experiences of discrimination. Ethnic identity has been found to be stronger and more salient among African Americans and other ethnic minority groups than among White Americans (Phinney 1992; Roberts et al., 1999). Further, there is compelling evidence that ethnic identity serves as a resilience and coping factor among these groups.

Among adults, research suggests that ethnic identity serves as a protective factor against psychological distress. Achieved ethnic identity (a secure and confident sense of their ethnicity) has been positively associated with self-esteem, coping, sense of mastery, and optimism. Conversely, a less developed ethnic identity has been associated with loneliness and depression (Roberts et al., 1999). Lorenzo-Hernandez and Ouellette (1998) compared Dominican, Puerto Rican, and African American adults and found that ethnic identity was positively associated with self-esteem in all three groups. African Americans in the unexamined stage or those that hold negative views of being African American have reported worse psychological well-being, lower self-esteem, and greater symptoms of depression (Pyant & Yanico, 1991; Munford, 1994; Walker et al., 2008; Settles et al., 2010). Ethnic identity can also influence the way in which individuals view society and their environment. In a study of 160 African American, Latina/o, and Asian American adults, Utsey, Chae, Brown, and Kelly (2005) explored the impact of ethnic group membership on ethnic identity, race-related stress, and quality of life. Ethnic identity was the strongest predictor of overall quality of life. African American participants reported higher levels of race-related stress, higher levels of ethnic identity, and higher psychological well-being as compared to Latina/o and Asian American participants (Utsey et al., 2005).

In a study that included 572 African American/ Black and White, student and non-student participants, Williams and colleagues (2012) examined the relationship between ethnic identity development and symptoms of anxiety and depression. In the African American (n = 151) subsample, higher ethnic identity was correlated with lower

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symptoms of anxiety and depression. This same correlation was not found in the White subsample.

Ethnic identity is considered to act as a "buffer" against the harmful effects of discrimination on psychological well-being by serving as a "lens" through which these experiences are perceived (Franklin-Jackson & Carter, 2007). Sellers and colleagues (2003) found that greater experiences of discrimination were only associated with greater psychological distress among African Americans for whom race was less central and salient to their identities, thus supporting the "buffer" hypothesis. These findings support the notion that a strong sense of ethnic identity may serve as a protective factor for African Americans by influencing the relationship between discrimination experiences and psychological well-being. Similarly, Franklin-Jackson and Carter (2007) found that African American young adults with higher ethnic identity reported greater psychological health than those with less achieved stages of ethnic identity, despite reporting more discrimination experiences. McClain and colleagues (2016) examined the impact of ethnic identity, racial centrality, minority status stress, and impostor phenomenon on mental health among a sample of 218 Black college students. Results of a hierarchical multiple regression analysis indicated that ethnic identity was a significant positive predictor of mental health. These studies provide evidence that strong ethnic identity may impact the relationship between discrimination experiences and psychological well-being. Based on these findings, I hypothesize that ethnic identity will mediate the relationship between perceived discrimination experiences and academic persistence among African American college students. Specifically, I expect that a stronger ethnic

identity will eliminate the relationship between perceived discrimination and intentions to persist in college.

Theoretical Frameworks

As noted earlier, one shortcoming of much of the mentoring literature is the lack of theoretical or conceptual frameworks to guide variable selection and interpretation of findings. In the present study two primary frameworks are used – Critical Race Theory and Social Cognitive Career Theory.

Conceptual Framework: Critical Race Theory

A central premise in this study is that racial/ethnic discrimination is a part of the college experience for African American/ Black students. I utilize critical race theory (CRT) to frame the context of the educational environments in which Black students exist, inform the selection the selection of study variables and make sense of the relationships between variables. Critical race theory draws from and extends literature in critical legal studies, sociology, history, and ethnic studies that seeks to account for the role of race and racial discrimination in society (Solorzano, Ceja, & Yosso, 2000). CRT refers to an understanding of inequality that was developed by legal activists and scholars in the 1980s who were frustrated with inability of institutions and movements to effectively address racial inequalities (Gold, 2016). A basic assumption of CRT is that racism is commonplace in society, especially for members who are negatively impacted by it (Ladson-Billings 1998). In education, CRT is used to centralize race and racism as well as challenge traditional paradigms, methodologies, and texts to show how the social constructs of race, class, and gender intersect and impact communities of color (Solorzano et al., 2000).

Gloria Ladson-Billings and William Tate's (1995) seminal work introduced CRT to the field of education. Ladson-Billings and Tate (1995) noted that race remained untheorized in education and asserted that analyses of educational inequity must include the role of racism and White supremacy. Much of their work emphasized K-12 educational contexts and provided a foundation for CRT application to extend to higher education (Patton, 2016). Building upon this foundation, Patton (2016) offered three propositions that inform inequity in postsecondary education contexts: (1) racism is at the root of the establishment of the U.S higher education system, (2) higher education is connected to imperialistic and capitalistic efforts that fuel the intersections of race, property, and oppression; and (3) higher education institutions serve as venues for the production of knowledge rooted in racism. In line with CRT, she argues that academic institutions, since their establishment, utilized larger racists narratives and existing legislation to engage in oppression (Patton, 2016). Dumas and ross (2016) posit that CRT entered the field of education as a Black theorization of race. They argued that CRT becomes a tool to analyze and respond to the institutionalized racism experienced by Black people (Dumas & ross, 2016). In this study, CRT is used to position the context of higher education institutions as not only historically racist, but historically anti-Black. With this understanding, discrimination experiences are a common occurrence for African American/Black college students. These occurrences may have an impact on Black/African American students' perceptions of the university environment and their college persistence intentions. CRT contends that individuals come to understand themselves and reflect on their racial and ethnic group membership within a cultural,

political, and historical context (Delgado & Stefancic, 2001). As such, CRT guided the selection of discrimination and ethnic identity as variables to include in the model.

Theoretical Framework: Social Cognitive Career Theory

Social cognitive career theory (SCCT; Lent, Brown, & Hackett, 1994) has been used to describe environmental and social cognitive contributions to career development. Lent, Brown, and Hackett (1994) understood academic development as an aspect of career development. SCCT emphasizes the relationships between individuals, their environments, and their behaviors, and how these factors interact to influence the development of academic and career interests, vocational and education goals, and academic and career achievements (Lent, Lopez, Lopez, & Sheu, 2008). Lent, Brown, and Hackett (2000) also acknowledge the role of contextual factors on the development of academic interests, goals, and actions. Individuals who experience more favorable environmental conditions, such as high supports (such as mentoring), low barriers (such as discrimination), as well as learning opportunities that increase academic-related self-efficacy and outcome expectations are predicted to have more favorable vocational outcomes. A central precept of SCCT is that academic interests, goals, and choices are in part the result of self-efficacy. Self-efficacy refers to "people's judgment about their ability to organize and perform actions required for a given task or ability," (Bandura, 1986, p. 391). Bandura (1997) and Lent et al. (1994) assert that self-efficacy beliefs are particularly important as they can inform outcome expectations. Self-efficacy has been associated with academic choice and is understood contribute to outcomes (i.e. level of school completed) because of the role of self-efficacy beliefs in helping people to interpret, organize, and apply their skills (Byars-Winston et al., 2010; Hackett & Lent,

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1992; Lent et al., 1994; Multon, Brown & lent, 1991; Sadri & Robertson, 1993). Based on Bandura's (1986) social cognitive theory, SCCT posits that through repeated activity engagement, modeling, and feedback from important others (i.e. mentors), individuals gain skills, manage expectations, and develop task specific self-efficacy (Lent et al., 1994).

The domain (or task) specific nature of self-efficacy (e.g., academic self-efficacy, math self-efficacy, public speaking self-efficacy) is important to consider (Bandura, 1997; Tsang, Hui, & Law, 2012). Success in a specific domain improves self-efficacy in that domain, and repeated failure in a given domain decreases self-efficacy in that given domain (Bandura, 1997). Higher self-efficacy in a domain is associated with a greater likelihood of attempting tasks in that domain and persisting longer in the face of difficulties (Bandura, 1997). Further, students' beliefs about their abilities to successfully perform academic tasks (i.e., academic self-efficacy) predict their actual achievement levels in school (Bandura, 1997; Valentine, DuBois, & Cooper, 2004). The more confident college students are in their ability to succeed academically and the stronger their beliefs that the outcomes of achieving a college degree will be positive (outcome expectations), the more likely they are to persist in attaining the college degree (Byars-Winston et al., 2010). As such, college self-efficacy may be an important predictor of intentions to persist in college. College self-efficacy refers to students' beliefs in their ability to successfully perform college related tasks, such as doing well on an exam or talking to university staff (Solberg et al., 1993).

Self-efficacy is impacted by learning experiences and the relationship between personal and contextual factors. Personal factors such as race or ethnic identity can

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influence learning experiences because of the racism within the educational system and differential exposure to resources, opportunities, role models, and other factors that may promote academic development (Lent et al., 1994; Ladson-Billings & Tate, 1995). For example, due to racial discrimination and inequity African American/Black college students may have less access to educational experiences that would enhance school-related self-efficacy expectations and outcome expectations (Hackett & Byars, 1996). Lent and colleagues (1994) described two types of contextual factors that may influence learning experiences, the formation of self-efficacy and outcome expectations, and students' goals and outcomes: distal and proximal factors. Distal factors refer to systemic factors that shape interests and cognitions such as access to opportunities and role models, emotional and financial support, and gender and cultural socialization. Proximal factors refer to role models, peers, family, and others forms of social support. Factors such as discrimination may be both distal and proximal (Lent et al., 1994). Racial discrimination can influence the Black college students' learning experiences that affect self-efficacy, such as opportunities for performance accomplishments, vicarious learning from role models, and encouragement from others or social persuasion (Hackett & Byars, 1996). Mentors are understood as proximal factors that provide psychological and emotional support in the forms of feedback and encouragement, academic and degree support aiding in skill development and goal identification, and by facilitating vicarious learning opportunities through role-modeling. Proximal factors are important to the academic experience of Black college students in that perception of social support (i.e. mentors) and barriers (i.e. discrimination) can impact intentions to persist (Byars-Winston et al., 2010).

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In applying SCCT to African American/Black college students, it is important to consider how race/ethnicity influences the contexts in which self-efficacy is developed (Hackett & Byers, 1996). For example, Black children are more likely to attend high poverty and low resource schools and to be taught by teachers with less experience (Ladson-Billings, 1995; Patton, 2016), which combine to reduce the quality of the learning experiences that contribute to academic self-efficacy. Because this study focuses on the college experiences of Black/African American students at one time point, I examine shorter-term academic outcomes (intention to persist in college and college self-efficacy) rather than longer term career outcomes.

Byars-Winston and colleagues (2010) utilized SCCT to examine the relationships between math/science self-efficacy and outcome expectations, the influence of ethnic identity and other group orientation, and perceptions of the campus climate to math/science interests and commitment to degree attainment among a sample of 223 African American, Latina/a, Southeast Asian, and Native American college students. Results indicated that participants who reported higher math/science self-efficacy and anticipated positive rewards also expressed stronger commitment to the goal of completing a STEM degree. Higher math/science self-efficacy was associated with a more positive campus climate. Byars-Winston and colleagues (2010) suggest the potential of a bidirectional relationship between math/science self-efficacy and campus climate in that campuses that are perceived to have a positive climate can impact personal self-efficacy and vice versa. The current study aims to further understand the relationship between perceptions of the campus environment and college self-efficacy for African American/Black college students. Based on SCCT, I expect that perceived discrimination

will have an inverse relationship with college self-efficacy and that more positive perceptions of the campus climate will be associated with higher reported college self-efficacy.

Summary of Literature Review

Mentoring can occur through a variety of relationships. Faculty members, staff members, graduate students and peers are all important to college student success (Pascarella & Terezini, 2005). There have been three major reviews of the mentoring undergraduate students literature (Jacobi, 1991, Crisp & Cruz, 2009, Crisp et al., 2017). These reviews detailed the scope of definitions used to describe mentoring relationships, theoretical and methodological approaches to studying mentoring and future directions for the mentoring research. There continues to be a lack of a consistent definition for mentoring in the literature (Crisp et al., 2017). Crisp and colleagues (2017) encouraged researchers to define mentoring and to distinguish between mentoring and other related programs. Additionally, much of the mentoring research is limited in that the literature lacks theories that explain how mentoring facilitates undergraduate student development (Crisp et al., 2017). This study utilizes Nora and Crisp's (2007) conceptual definition that describes a mentoring relationship as one that includes: 1) psychological and emotional support, 2) degree and career support, 3) academic subject knowledge support, and 4) the existence of a role model. Consistent with SCCT, mentoring can serve as a proximal support that provides Black college students with verbal persuasion (encouragement) and role modeling experiences that increase self-efficacy for succeeding in college and strengthen intentions to persist in college. The support provided by mentoring may also foster stronger efficacy for coping with barriers (Lent Brown Hackett 2000). These

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experiences may also contribute to performance accomplishments, which in turn foster stronger college self-efficacy and persistence intentions.

Black students graduate from college at lower rates than other racial and ethnic groups (Shapiro et al., 2017). This may be due to barriers that these students encounter as they navigate the university environment. Black students at predominantly White institutions may experience racial conflict in the forms of pressure to conform to stereotypes, less equitable treatment by faculty and staff, stress related to fitting in, cultural conflict, help-seeking, coping, lack of resources, mistrust in the institution, racism, and social support (Ancis, Sedlacek, & Mohr, 2000; Watkins, Green, Goodson, Guidry, & Stanley, 2007). Racial discrimination has been associated with reduced mental health, self-esteem, and academic motivation (Baldwin, Chambliss, & Towler, 2003; Cokely et al., 2017; Lewis & Neville, 2015; Wong et al., 2003). In the current study, mentorship has been identified as a proximal support factor that may alter the impact of discrimination on outcomes for Black college students. CRT is used to acknowledge the historical, social, and political context in which these mentoring relationships exist, taking into account how students perceive their campus environments, experience discrimination within society, and develop their ethnic identities. Further SCCT and CRT are used to consider the relationship between these factors and students belief about their ability to navigate college and persist through graduation.

The current study addresses some of the shortcomings of the mentoring literature by (a) using specific theoretical frameworks to understand the dynamics of mentoring relationships and how these relationships interact with contextual factors and academic outcomes, and (b) by using a specific, comprehensive definition of mentoring to

contextualize and understand the role of mentoring in the relationship between discrimination experiences, college self-efficacy and academic persistence for a sample of African American/ Black college students.

Purpose of Study

The overarching purpose of this study was to understand the role of mentorship in the experiences of Black college students at colleges throughout the United States. This study contributes to existing literature by utilizing contextual and theoretical frameworks to better understand the role of mentoring relationships among Black college students. Further, this study attends to the paucity of research focused on the mentoring experiences of African American/Black college students. This study utilizes the CSMS to understand and describe the mentoring relationships of African American/Black students and how these relationships influence academic persistence and college self-efficacy. Following current literature, I utilized Lent, Brown, and Hackett's social cognitive career theory (1994) and critical race theory to develop a mediating structural model that showed the hypothesized relationships between the study's variables. I examined the potential mediating role of mentoring in the relationship between perceived discrimination and perceptions of the university, and persistence intentions and college self-efficacy of African American/Black college students.

This study was guided by two aims. First, I wanted to better understand mentoring relationships among Black college students through generating and providing descriptive information about these relationships. Secondly, I wanted to test whether mentoring contributed to a model predicting college self-efficacy and persistence intentions among this sample of Black college students. The model was derived from the literature on

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Black college students and CRT and SCCT informed the selection of variables. Given the importance of ethnic identity as a protective factor for Black students, ethnic identity was included as a second key mediator in this same model predicting college self-efficacy and persistence intentions. Following these aims, first, I provide descriptive data about mentoring experiences for this sample. Second, I tested the following hypotheses: 1) that the model would provide a satisfactory fit to the sample data, 2) perceptions of the university environment would be positively related to college self-efficacy, with more positive perceptions associated with higher reported college self-efficacy and positively related with academic persistence intentions, 3) perceived discrimination would be inversely related to college self-efficacy and academic persistence intentions, 4) there would be an indirect relationship between discrimination experiences and self-efficacy and persistence through mentoring, as well as an indirect relationship between perceptions of the university environment and college self-efficacy and academic persistence intentions through mentoring 5) there would be an indirect relationship between discrimination experiences and self-efficacy and persistence through ethnic identity, as well as an indirect relationship between perceptions of the university environment and college self-efficacy and academic persistence intentions through ethnic identity 6) there would be an indirect relationship between study variables and persistence intentions through college self-efficacy Figure 1 represents the hypothesized model.
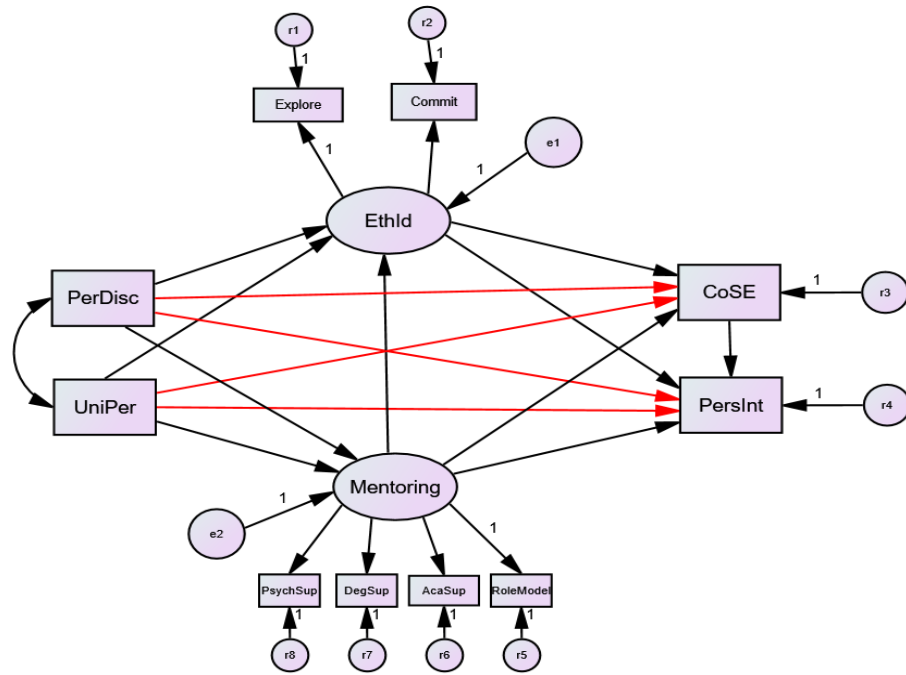
Figure 1. Hypothesized model. Red represents relationships that are hypothesized to be impacted by mediating variables.

CHAPTER II

METHODOLOGY

Procedure

Prior to data collection, this study was reviewed and approved by the University

of Oregon Institutional Review Board and Research Compliance Services (Protocol #:

12122017.024). Participants were recruited using three methods: email advertisements,

postings on the Internet social networking websites (e.g. Facebook and Twitter), and

snowball sampling. Each of these methods were used at the onset of data collection With

respect to email advertisements, I targeted university-based, nationally or regionally-

based, and/or network-based groups with a focus on multicultural populations (i.e., ethnic

minority groups), Black/African American membership, and/or Black/African American

student-related issues (i.e., Black Student Unions). I selected these groups based on their

focus on African American/ Black issues, using keywords in Google and social media

search engines such as "Black student organizations." After identifying these groups I

sent an advertisement (see Appendix A) to the leaders of these student organizations and

requested that the email be distributed to their student members via their group listservs.

In addition to campus listservs, I also sent recruitment emails to professionals (referred to

as liaisons henceforth) throughout the U.S. who work with African American/ Black

young adults and/or college students. I identified these liaisons via my professional

relationships with local community members and Student Affairs professionals as well as

my current extended social network. I asked these liaisons to disseminate the email

advertisement to people who fit the participant demographic or to those with access to

African American/Black young adults and/or college students. The process of identifying

liaisons continued throughout the data collection time frame. I sent emails to 160 unique liaisons and student leaders in an effort to recruit current study participants.

The second recruitment method involved social networking engines. I advertised the study on the social networking websites as a way to reach a diverse range of African American/ Black college students. Specifically, the study description and invitation to participate was posted on the social media pages of family members, friends, colleagues, and interest groups such as Black Student Union, Association of Black Psychologists, and Black Student Affairs Professionals.

Snowball sampling was used as a final recruitment method (Gall, Borg, & Gall, 2003). Snowball sampling refers to using participants to identify other participants for the study. I requested that participants forward the email advertisement and invitation to participate to other eligible participants and to listservs that might reach eligible participants. Upon completion of the survey, all participants were prompted to share the survey weblink with other individuals and listservs.

Data was collected online, using Qualtrics, a secure web-based service used to collect survey data. Qualtrics was used to ensure participant confidentiality. This service provides secure and confidential storage of data. The timeframe for data collection was from January 2018 to May 2018.

The email advertisements and social media postings for the study included: (1) a brief description of the study, (2) eligibility criteria for participation, (3) the approximate time commitment to complete the survey, (4) an internet link to the web-based survey page, and (5) information regarding IRB approval. Refer to Appendix A for copies of these materials.

Participants

A total of 280 participants consented to participate in the study. Seventy-four participants were excluded from the analysis due to premature survey termination or missing items for an entire measure (e.g. no responses to CSMS items). Data from 206 participants were retained for analyses. These students represented institutions from 17 states across the US. Of the 206, 61% self-identified as African American of American origin, indicating that they were born and raised in the US and a total 80% of respondents ($n = 164$) reported that they were born in the US. The majority of respondents self-identified as women ($n = 149$), were pursuing their bachelor's degree ($n = 182$) and attended universities in which the student body was mostly comprised of White students ($n = 154$). The ages of participants ranged from 18-60, with 74% of students being between the ages of 18 and 24. The majority of students had been continuously enrolled in school since they began college (n = 175, 85%). Fifty percent of students in the study were first-generation college students *(*n = 103), suggesting that no parent had graduated from college. In terms of formal mentoring supports, 50 students indicated that they were involved in a mentoring program and 16 students reported involvement in a formal research program. Additionally, 65 participants were transfer students. Students who terminated the survey early were similar to the sample retained – mostly female identified, pursuing their bachelor's degree, and mostly attending predominantly White institutions. See Table 1 for additional sample demographics.

Table 1 Sample Demographics

Demographic Variable	n
Ethnicity	
African-American of US Origin	127
African-American of African Origin	25
African American of Caribbean Origin	5
African	18
Caribbean	7
Multiracial, including African-American/Black	23
Biracial, including African-American/Black	25
Other African-American or Black Origin	2
Gender	
Female	149
Male	54
Transgender	1
Gender variant or gender non-confirming	2
Current degree	
AA	3
BA or BS	182
Professional/graduate school	19
Other	2

Note. African-American of U.S. origin references those who were born and raised in the United States. African-American of African origin includes students who indicated that they were born in an African country and are now living in the US. African-American of Caribbean origin is inclusive of those born in a Caribbean Island and now living in the US. Students were given the option to select more than one option.

Table 1 Sample Demographics (continued)

Demographic Variables	*n*
Grades	
1.0 – 1.9	2
2.0 – 2.5	23
2.6 – 2.9	43
3.0 – 3.5	84
3.6 – 4.0	52
Campus Diversity	
Mostly White	154
Mostly students of color	9
All students of color	13
About half White and half students of color	32
Historically Black College and University	5
Hispanic Serving Institution	4
Living Arrangement	
On campus	59
Off campus, alone	25
Off campus, with roommates	72
Off campus, with family	45
Parental education	
Both parents/guardians attended college	65
Mother/female guardian attended college	46
Father/male guardian attended college	16

Table 1 Sample Demographics (continued)

Demographic Variables	*n*
Sources of financial aid	
Work full-time	91
Work part-time	33
Family	65
Scholarships	113
Loans	126
Personal savings	41
Family finances	
Very stressful	56
Somewhat stressful	80
Stressful	35
Not stressful at all	35

Measures

Demographics. Participants were asked to respond to items requesting information about their age, gender, race/ethnicity, grade point average, school, class standing, generational/ immigration status, living arrangements (on or off-campus), current campus diversity, parent education, sources of financial aid, continuity of enrollment, enrollment status (part or full time), employment status, transfer status, how confident they are about graduating from the institution they are attending, name of current institution, how they found out about the study, and whether they are currently in a mentoring program or research lab.

Mentoring. College Student Mentoring Scale (CSMS; Crisp, 2009) is a 25-item scale developed to assess mentoring as defined in Nora and Crisp's (2007) mentoring framework. CSMS assesses four domains of mentoring relationships: 1) psychological and emotional support, 8 items; 2) degree and career support, 6 items; 3) academic subject knowledge support, 5 items; and 4) the presence of a role model, 6 items. Participants are asked to identify the degree to which, while in college, they have had someone in their life that provided each of the mentoring experiences using a 5-point Likert-type scale 1(strongly agree) to 5 (strongly disagree). Sample items include, "While in college, I have someone in my life who I look up to regarding college-related issues," "…encourages me to consider education opportunities beyond my current plans," "…gives me emotional support," and "…provides ongoing support about the work I do in my class." Responses were recoded so that higher scores represent stronger agreement with having someone in their life that provided mentoring experiences.

Crisp (2009) established initial reliability and validity among a sample of White, Hispanic, Asian American, and African American college students. Due to the small sample (n = 11) African American students were excluded from analyses subsequent to internal reliability, model testing, and factor analysis. Cronbach's alpha coefficients for psychological and emotional support ($\alpha = .91$), degree and career support ($\alpha = .90$), academic subject knowledge support ($\alpha = .88$), and existence of a role model ($\alpha = .85$) indicated that each subscale was reliable. Crisp used Confirmatory Factor Analyses to test the goodness of fit of four models. Model 1 forced all items to load on a single latent variable, in which factor loadings and errors were freely estimated. Model 2 consisted of a four-factor solution consisting of psychological and emotional support, academic

subject knowledge support, degree and career support, and existence of a role model. Each item was only allowed to load on the latent variable it was hypothesized to represent and factors were not allowed to correlate. Model three was similar to Model 3, with the difference being that factors were allowed to correlate. Model 4 was based on theory that suggested mentoring is comprised of two components: career and psychosocial. This model tested a two-factor solution. Factors were not allowed to correlate. Models 1, 2, and 4 were not found to provide a good fit for the data. Model 3, which consisted of a four-factor solution and allowed each factor to correlate, was determined to be a plausible fit. After examining standardized residual covariance, Crisp (2009) revised the model to allow two identified error terms to correlate. This revised model was resulted in an improvement in fit as indicated by the goodness of fit indices: χ^2 (249) = 639.613, p > .001, χ^2/df (2.569), AGFI (.826), RMSEA (.068), RMR (.032), NFI (.908), CFI (.941), TLI (.929). The absence of large residuals verified a good model fit. Strong positive correlations were found between each of the factors (r = .88 to .97). Due to the high positive correlation found between the four latent variables, Crisp (2009) conducted a higher order factor analysis to assess if covariance among the latent variables could be explained by a general factor, "Mentoring." The fit of the solution was comparable to the revised model 3 and results indicated that the higher order factor model was valid. On the basis of these findings, Crisp concluded that items measuring each factor were reliable and that additional research is needed to confirm the construct validity of the four-factor model. Crisp (2009) also suggested that research on the CSMS be used with an adequate sample of African American students.

Crisp and Cruz (2010) sought to validate the domains underlying the mentoring

experiences of students attending a Hispanic Serving Institution (HSI). Participants included White (42%), Hispanic (42%), African American (8%), Asian American (6%), and Native American (>1%) college students attending a HSI in the south. Extending the research of Crisp (2009), Crisp and Cruz (2010) tested three models using CFA. In the first model all items were forced to load on a single latent variable. The second model consisted of four factors that were uncorrelated. Model 3 allowed the four-factors to correlate. Model 1 and 2 were not found to be a good fit. Model 3 yielded goodness of fit indices that were approaching accepted values. As such, modification indices and expected parameter change values were examined to improve the goodness of fit. A revised version of model 3, consisting of respecified modification indices, resulted in a good fit as evidenced by fit statistics. Based on these findings, the authors provided reliability and validity for the CSMS, which is comprised of four types of support: psychological and emotional support, degree and career support, academic subject knowledge support, and the existence of a role model. Crisp and Cruz (2010) suggested that future research assess how various groups, including African American college students, perceive and experience mentoring. Thomas, Wolters, Horn, and Kennedy (2014) used the CSMS to evaluate faculty mentoring relationships among a sample of African American college students ($n = 134$) from a large university in the south. Thomas and colleagues used additional questions to capture informal and formal relationships and the race/ethnicity of the faculty mentor. They reported a reliability coefficient of .96 for the measure, including the additional items.

The College Student Mentoring Scale provides a conceptual framework for assessing the mentoring experiences of college students, but was not developed

specifically with an African American/Black population in mind. Given the literature on mentoring with this population and aiming to capture important aspects of mentoring for this group, and with the permission of Crisp (personal communication, April 26, 2017) I developed two additional mentoring items for the current study to explore mentoring activities related to support for discrimination experiences. The same prompt was used for these items such that participants are asked to identify the degree to which, while in college, they have had someone in their life that provided each of the mentoring experiences using a 5-point Likert-type scale 1(strongly agree) to 5 (strongly disagree). Statements are "encourages me to discuss experiences of discrimination that I may face" and "provides recommendations on how to handle experiences of discrimination that I may encounter." Higher scores indicate more support for perceived discrimination experiences. These two items were included with the psychological and emotional support subscale. For the current study, Cronbach's alpha coefficients were: total (α = .97), psychological and emotional support (α = .92), degree and career support (α = .92), academic subject knowledge support (α = .93), and existence of a role model (α = .91).

Finally, to better understand how Black students communicated with their mentoring supports, I asked participants to describe their mode of interactions with the person(s) they had in mind while answering the questions about mentoring activities. Respondents were prompted to check all responses that apply: "In person, face to face," "one on one," "in a group setting," "via email," "speaking on the phone," "text messaging," and "telecommunication service (e.g. Skype)." Students were also invited to indicate other forms of communication with their mentors.

Ethnic Identity. The revised version of the Multigroup Ethnic Identity Measure

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(MEIM; Phinney, 1992) was used to assess participant's level of ethnic identity. The MEIM-R (Phinney & Ong, 2007) consists of six items and assesses two aspects of ethnic identity: 1) exploration, which refers to searching for information and experiences relevant to one's ethnicity, 3 items and 2) commitment, which refers to strong attachment and personal investment to ones ethnic group, 3 items. Response options are presented on a 5-point range of responses, from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*), with 3 as a neutral position. Sample items representing exploration include "I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs" and "I have often done things that will help me understand my ethnic background better." Sample items representing commitment include "I have a clear sense of belonging to my ethnic group" and "I feel a strong attachment towards my own ethnic group." Scores are averaged together for each subscale and overall measure. Higher scores on the MEIM-R are representative of a more developed sense of ethnic identity.

The initial measure consisted of 14 items that assessed three aspects of ethnic identity: positive ethnic attitudes and sense of belonging (5 items); ethnic identity achievement (7 items); and ethnic behaviors (2 items). In a study with 136 Latino/a, Asian/ American, White, and Black college students, overall reliability of the scale was .90. Cronbach's alpha for the positive attitudes and belonging subscale was .86. Reliability for the achievement subscale was .80 (Phinney 1992). This same sample of college students completed six items that assessed other group orientation. A principle axis factor analysis yielded five factors; three of which were highly intercorrelated and the remaining appeared to be subfactors of the Other-group orientation scale. Thus a two-factor solution was chosen - one representing the ethnic identity questions and the second

factor consisting of the other-group orientation items. Roberts and colleagues (1999) examined the factor structure and construct validity of the MEIM in a sample of diverse adolescents. An exploratory factor analysis resulted in three factors, with one factor consisting of two items. These two items were eliminated and the factor structure was re-estimated, forcing two factors. The first factor consisted of seven items, representing affirmation, belonging, and commitment. Results of a confirmatory factor analysis revealed that the hypothesized two-factor structure fit the data with the 12-item MEIM and reliability was consistent with that of the 14-item measure.

Phinney and Ong (2007) established reliability and validity for the two-factor scale on two samples of racial/ethnically diverse college students. In the first sample, results of an examination of a 10-item MEIM revealed good internal consistency with Cronbach's alphas of .83 and .89 for exploration and commitment, respectively. They then conducted a a maximum likelihood factor analysis and generated corrected item-total correlations for the scale. Four items with low factor loadings (< .40) were dropped to increase the proportion of variance that was explained by the factors, thus yielding the six-item measure (three items for exploration and commitment, respectively). In the second sample, Phinney and Ong (2007) compared the fit of five difference models using the six items. The first model assumed that ethnic identity was comprised of independent factors. The second model allowed variables to load on a single factor. The third model did not allow the two factors of exploration and commitment to correlate. The fourth model did allow these latent factors to correlate. The fifth model was single second-order model. Model four, which consisted of two correlated latent constructs proved to fir the data better than the first three models. Phinney and Ong determined that the hierarchal

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second-order model (Model five) did not improve the fit of model four. These findings provide support for the use of the six-item measure.

Findings from Chakawak, Butler, and Shapiro's (2014) study further established reliability and validity of the MEIM-R. In a sample of 196 community members (105 African American and 91 European American), they found that the hypothesized two-factor model consisting of six items that allowed latent variables to correlate was the best fit for the data. In their sample, African American adults reported higher level of racial/ethnic identity exploration and commitment than European Americans. In the current study, internal consistency coefficients were: total (α = .89), exploration (α = .79) and commitment (α = .91).

Perceived Discrimination. The Perceived Discrimination subscale from the Scale of Ethnic Experience (SEE; Malcarne, Chavira, Fernandez, & Liu, 2006) assesses perceptions of discrimination toward group and self. The SEE is a 32-item self-report instrument that measures four ethnicity-related cognitive constructs (Ethnic Identity, Perceived Discrimination, Social Affiliation, and Mainstream Comfort) across ethnic groups. Sample items from the 9-item Perceived Discrimination subscale include: "Discrimination against my ethnic group is not a problem in America" (reverse scored) and "In my life, I have experienced prejudice because of my ethnicity." Response options are presented on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). After reverse-coding the appropriate items, item scores are averaged, with higher scores indicating higher perceived discrimination.

Malcarne and colleagues (2006) established reliability and validity of this measure among a sample of college students that included African Americans, Caucasian

Americans, Filipino Americans, and Mexican Americans across five studies. The first study included a review of the literature concerning ethnic identity and identification of cognitive constructs important to an individual's subjective experience of ethnicity. This study also included two focus groups consisting of undergraduate and graduate students. Focus groups discussions resulted in the establishment of a 73-item measure. As part of a second study, researchers conducted exploratory factor analysis for data collected from four different ethnic groups. Initial results suggested a 32-item scale that consisted of four factors (Ethnic Identity, Perceived discrimination, Mainstream Comfort, and Social Affiliation). Results of a components analysis revealed that the four factors collectively explained 51% of the variance among African American participants (Malcarne et al., 2006). Internal reliability for the PD subscale was .91 overall and .86 for the African American sample. The third study assessed test-retest reliability. Six-week test-retest reliability was ranged from .77 to .86 for the combined subscales and .46 to .82 for the Perceived Discrimination subscale. See Malcarne et al., 2006 for a description of findings for the full measure. The fourth study established concurrent validity for the ethnic identity and acculturation subscales. A final study cross-validated the factor structure. Results of a confirmatory factor analyses suggested the four-factor model fit the data well, establishing factorial validity. Internal consistency alpha coefficient for the Perceived Discrimination subscale in the present sample was .83.

Perceptions of University Environment. University Environment Scale (UES; Gloria & Robinson Kurpius, 1996). The UES was developed to measure students' perceptions of the university environment. The scale contains 14 items, with five reverse-coded items. Response options are presented on a 4-point Likert-type scale, ranging from

1 (*Strongly Disagree*) to 4 (*Strongly Agree*). A sample item is "I do not feel valued as a student on campus." Scores are derived by averaging all items. Higher scores represent a more positive perception of the university environment. Gloria and Robinson Kurpius (1996) established reliability and validity for the UES measure in a sample of Chicana/o college students.

An initial examination of the 16-item measure resulted in a 14-item scale with a Cronbach's alpha of .84. This 14-item measure was validated using two samples of Chicano/a undergraduate students. The internal consistencies for the participants were .81 and .85 for the samples, respectively. These samples were not statistically different, and as such responses were combined to examine internal reliability of the total sample. Cronbach's alpha for the total sample was .84. Further, UES was used in a regression equation to investigate its predictive validity relative to academic persistence. Scores on the UES accounted for 25% of the variance in academic persistence. Additionally, students who reported more positive perceptions of the university were more likely to indicate intentions to persist in school (Gloria & Kurpius, 1996). This is relevant as the current study seeks to examine the relationship between perceptions of the university and persistence attentions among a sample of Black college students. Although the scale was initially developed with Chicano/a undergraduate students attending a PWI (Gloria & Robinson Kurpius, 1996), UES has been used with African American undergraduate students (Gloria, Robinson Kurpius, Hamilton, and Wilson, 1999). Gloria and colleagues (1999) reported internal consistency reliability of .81 for African American participants. Cronbach's alpha for the current sample was .85.

College Self-efficacy. College Self-efficacy Inventory (Solberg, O'Brien,

Villareal, Kennel, and Davis 1993). The College Self-efficacy Inventory was designed to assess students' beliefs about their ability to navigate three aspects of college. The instrument is comprised of three subscales – Course Efficacy, Social Efficacy, and Roommate Efficacy. With permission from the developers, only the Course Efficacy (7-items) and Social Efficacy (8-items) subscales were used in this study. Not all college students live with a roommate and as such the questions on the Roommate Efficacy subscale may not be applicable to all survey respondents. Responses are based on a 5-point Likert-type scale, ranging from 1 (*Not at all Confident*) to 5 (*Very Confident*). Participants are prompted to respond to "how confident you think you would be in performing the career related task." Sample tasks include "keep up to date with your schoolwork" and "participate in a class discussion." Higher scores represent higher levels of self-efficacy.

Reliability and validity were established in a sample of 164 Latino/a college students. The initial 40 items were sent to six judges to be reviewed independently on the basis of importance, specificity and clarity, and if they were representative of the college experience. Response option for these items consisted of a 10-point scale ranging from 0 (*not at all confident*) to 10 (*extremely confident*). To establish convergent and discriminant validity, Solberg and colleagues (1993) also administered the Brief Symptom Inventory, a multicultural stress instrument, two measures of social support, and a measure of acculturation. Results of a principal components analysis revealed that 19 items loaded across four factors, which accounted for 70% of the total variance. After examining eigenvalues, the scree plots, discontinuity between factors, and meaningfulness of the given solution, a three factor solution was selected - Course

Efficacy, Roommate Efficacy, and Social Efficacy. Internal consistency reliability for the full instrument was .93 and .88 for each subscale, respectively. Results of a correlation revealed that the college efficacy subscales were related to other indexes of adjustment and were differentiated from nonadjustment constructs. In the present sample, internal consistency reliability for the full instrument was .84, with alphas of .77 and .84 for the course and social self-efficacy subscales, respectively.

Academic Persistence. Student Intention Certainty Scale (SICS; Landry, 2003). The Student Intention Certainty Scale (SICS; Landry, 2003) consists of 8 items designed to measure students' level of intention to remain enrolled in college and their degree of commitment to the decision to graduate. Items were adopted from Cabrera, Nora, and Castaneda (1993). Response options are presented on a 4-point Likert-type scale ranging from 1(*Strongly Disagree*) to 4 (*Strongly Agree*). Sample items include, "I intend to obtain my undergraduate degree" and "I am certain I will obtain my degree no matter what obstacles I face."

Face and content validity were established by using higher education experts, career and personal counselors, and a psychologist to assess the clarity, usability, and readability of the items. Additionally, the scale was administered as a pilot test to a group of undergraduate students. Upon completion of the survey, students were asked about difficulties responding to the items, clarity of instructions, and recommendations. Other validity and reliability were established in a sample of 441 college students. Results of a principal components exploratory factor analysis revealed a two-factor solution that accounted for 58.8% of the variance. Factor 1 (Intention) accounted for 35% of the variance and factor 2 (Commitment) accounted for 23.8% of the variance of the solution.

Factor loadings ranged from .55-.84. Cronbach's alpha for the Intention and Commitment subscales were .75 and .68, respectively. Higher scores indicate stronger intentions to persist in college. Cronbach's alpha internal reliability coefficients for the full scale with the current sample was .65.

CHAPTER III

RESULTS

In this section, I describe the results of the preliminary and descriptive analyses,
testing of the measurement and structural models, and indirect effects. Preliminary and
descriptive analyses include screening and handling of missing data, testing of model
assumptions, generating descriptive statistics and bivariate correlations between study
variables. All statistical analyses were performed using IBM SPSS 25.0 for Mac or IBM
SPSS Amos 25 for Windows.

Preliminary Analyses

Preliminary analyses were conducted in three steps. First, data were screened for
missing data and outliers. Next, data were evaluated to assess for assumptions of
linearity, normality, and homoscedasticity before conducting statistical analyses. Lastly
descriptive statistics, including means and standard deviations, as well as bivariate
correlations between study variables were examined. Missing data were assessed using
Missing Values Analyses in IBM SPSS 25. Data were determined to be missing
completely at random. Results of Little's Missing completely at random (MCAR) test, χ^2
$(2631) = 2694.5742$, $p = .190$ revealed that the MCAR assumption was tenable. Missing
values for items was low, ranging from 0 to 2.4%. Missing data were imputed using the
expectation-maximization (EM) algorithm. Mean scale scores were computed for each
measure. Means for imputed data did not differ significantly from those of the original
data. No influential outliers were detected. The imputed data were used for all subsequent
analyses. Examination of histograms, skew, and kurtosis revealed that data met
assumptions of normality. Variables did not exceed cutoffs for skewness (> 3) or kurtosis

(> 10) suggesting that normality was tenable (Weston & Gore, 2006). Tolerance values

below .10 and variance inflation factors below 10 (Kline, 2016) indicated that

multicolinearity was not an issue for study variables. Means and standard deviations for

study variables are presented in Table 2.

Table 2

Means, Standard Deviations, and Ranges of Study Variables

Variable	M	SD	Range
1. Role model	3.74	1.08	1-5
2. Academic support	3.70	1.13	1-5
3. Degree support	3.65	1.07	1-5
4. Psychological support	4.01	0.87	1-5
5. Perceived discrimination	4.20	0.76	1-5
6. University perceptions	2.97	0.46	1-4
7. College self-efficacy	3.91	0.65	1-5
8. Persistence intentions	3.51	0.41	1-4
9. Exploration	3.96	0.89	1-5
10. Commitment	3.99	1.00	1-5

Note. 1-4 = Mentoring subscales. 9-10 = Ethnic Identity subscales

Independent samples *t*-tests were conducted to test gender differences among

study variables and assess for differences between those current pursuing a bachelor's

degree and other study participants. Results of the first *t*-test indicated that mean scores

for persistence intentions differed significantly between male ($M = 3.41$, SD = .44) and

female ($M = 3.55$, SD = .39) students; $t(201) = -2.161$, $p < .05$. This suggests that female

Black college students reported higher intentions to persist through graduation. There

were no other significant gender differences for the remaining study variables (see table

3). A second t-test revealed that there were no significant differences in mean scores

between students' currently pursuing their bachelor's degree and other study participants

on study variables.

Table 3

Descriptive Statistics of Sample Variables Among Females (n = 149) and Males (n = 54)

	Females		Males	
Variable	*M*	*SD*	*M*	*SD*
1. Role model	3.72	1.13	3.82	.96
2. Academic support	3.72	1.16	3.67	1.05
3. Degree support	3.64	1.07	3.67	1.08
4. Psychological support	4.02	.90	3.99	.79
5. Perceived discrimination	4.25	.72	4.02	.85
6. University perceptions	2.99	.47	3.02	.44
7. College self-efficacy	3.87	.66	4.03	.60
8. Persistence intentions	3.55	.39	3.41	.44
9. Exploration	3.97	.89	3.90	.92
10. Commitment	4.03	.98	3.93	1.08

Note. 1-4 = Mentoring subscales. 9-10 = Ethnic Identity subscales

Descriptive Information about Mentoring

A series of analyses were conducted to generate descriptive information regarding

responses to the measure of mentoring, specifically on the mentoring subscales. Means

and standard deviations based on sample descriptors are shown in Table 4. T-tests were

conducted to explore whether participants who belonged to research labs or participated

in mentoring programs scored differently on the mentoring subscales. Results revealed

no significant mean differences among psychological and emotional support [$t(204)$ =

.441, $p > .05$], degree and career support [$t(204)$ = .665, $p > .05$], academic subject

knowledge support [$t(204)$ = .412, $p > .05$], and presence of a role model [$t(204)$ = .245,

$p > .05$], between those in research labs (n =16) and those not in a research lab (n =190).

Similarly, no mean score differences on psychological and emotional support [$t(204)$ =

.761, $p > .05$], degree and career support [$t(204)$ = .925, $p > .05$], academic subject

knowledge support [$t(204)$ = .908, $p > .05$], and presence of a role model [$t(204)$ =

1.404, $p > .05$] were found between those in mentoring programs (n = 50) compared to

those who were not (n =156). I conducted an analysis of variance (ANOVA; Table 5) to

assess for differences on mentoring subscales as a function of participants' living

arrangement (on campus, off campus with roommates, off-campus alone, off-campus

with family). Results of Scheffe's post-hoc test indicated a significant difference between

Black students who lived on campus (n = 59, M = 4.18 SD = .90) relative to those who

lived alone off campus (n = 25, M = 3.37 SD = 1.28) and those who lived off-campus

with roommates (n = 72, M = 3.64 SD = .96) on the presence of a role model subscale.

Black college students who lived on campus had higher scores on the role model subscale

than those who live off campus with roommates or alone off campus. Results did not

indicate significant differences on the other mentoring subscales.

Table 4

Means and Standard Deviations of Mentoring Subscales Based on Sample Descriptors

Variable	n	Psych and Emotion Support		Degree and Career Support		Academic Subject Support		Presence of Role Model	
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Research lab	16	4.10	.57	3.82	.87	3.81	.86	3.80	.96
No research lab	190	4.01	.89	3.64	1.08	3.69	1.15	3.73	1.09
Mentoring program	50	4.08	.64	3.76	.94	3.81	.93	3.90	.89
No mentoring program	156	3.99	.93	3.61	1.10	3.67	1.19	3.69	1.13
Living on campus	59	4.17	.70	3.96	.76	4.03	1.00	4.18	.90
Living off campus, alone	25	4.05	1.06	3.43	1.28	3.42	1.46	3.36	1.28
Living off campus, with roommates	72	3.94	.75	3.60	1.05	3.57	1.02	3.64	.96
Living off campus, with family	45	3.94	1.03	3.64	1.18	3.72	1.13	3.69	1.17

Table 5

One-Way, Between-subjects Analysis of Variance Summary Table for the Effects of Students' Living Arrangement on Presence of a Role Model

Source	df	SS	MS	F
Between groups	3	16.25	5.42	5.05*
Error	197	211.39	1.07	
Total	200	227.64		

Note. *$p < .05$.

After completing the CSMS, respondents completed two follow up questions about the mentors that they were referencing. Specifically, participants were asked an open ended question in which they wrote in how many people (mentors) they were considering when responding to CSMS questions. Students were also given a range of communication methods and asked to select how they communicated with these mentors. Students were allowed to mark all communication methods that were applicable. Most students reported that they were thinking considering one, two, three, or four individuals when completing the CSMS, with 25% of total participants reporting that they were thinking of three people. Table 6 reports the number of mentors students were considering. Bivariate correlations were conducted to examine the relationship between number of mentors and experiences of mentoring supports. Due to small sample sizes, students who reported higher than five mentors were not included in the correlation. Students for whom a number of mentors could not be calculated were also not included in the correlations. Results revealed that number of mentors was significantly correlated

with psychological and emotional support ($r = .28$, $p < .05$) and presence of a role model ($r = .18$, $p < .05$). Number of mentors was not significantly related to degree and career support ($r = .11$) or academic subject knowledge support ($r = .08$). Results suggest that Black students who report higher number of mentors also reported higher levels of psychological and emotional support and more agreement with having someone they perceive as a role model.

Table 6

Overall Numbers of Mentors Reported by Study Participants

Mentors	*n*	%
0	3	1.46
1	30	14.56
2	40	19.42
3	52	25.24
4	26	12.62
5	17	8.3
6 – 10	16	16.50
Unknown	18	8.74

Note. Items in the Unknown category include responses in which students voluntarily provided descriptive information about the mentors and an exact number of mentors could not be discerned. Responses represented in "6-10" were collapsed in the table.

With respect to communication methods, almost 92% of students indicated that they communicated with mentors in person. Of note, 62.6% of participants shared that they communicated with their mentors via text message and 17% via telecommunication programs such as Skype. The majority of participants indicated that they used 4 different

methods of communicating with individuals who provided mentoring supports. Additional details are presented in Table 7. I examined correlations between number of communication methods and the mentoring subscales. Results revealed a significant positive relationship between the number of mentoring communication methods selected and psychological and emotional support ($r = .15$, $p < .05$). There were not significant relationships between number of mentoring communication methods and the other mentoring subscales.

Because I created two variables to include mentoring related to discrimination experiences, I report here descriptive information associated with these two individual items. Approximately 62% of study participants agreed or strongly agreed that they had someone in their life that encouraged them to discuss experiences of discrimination that they encounter ($M = 3.72$, $SD = 1.38$). Further, 60% of respondents reported that they had people in their life that provided recommendations on how to respond to these experiences of discrimination ($M = 3.58$, $SD = 1.38$).

Relationships among Study Variables

A review of bivariate correlations indicated significant relationships between study variables. Each mentoring subscale (psychological and emotional support, degree and career support, academic subject knowledge support, and presence of a role model) was positively associated perceptions of the university environment and college self-efficacy. Additionally, higher psychological and emotional support was related to higher ethnic identity development and stronger intentions to persist in college. Consistent with study hypotheses, more positive perceptions of the university were associated with higher college self-efficacy and stronger persistence intentions. Perceived discrimination was

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negatively associated with perceptions of the university environment and positively

correlated with ethnic identity development. Unexpectedly, perceived discrimination was

not significantly associated with persistence intentions. Correlations among study

variables are presented in Table 8.

Table 7

Mentoring Communication Methods for Study Participants (N = 206)

Method	n	%
In-person, face-to-face	189	91.75
One on one	131	63.64
In a group setting	59	28.64
Email	67	32.52
Phone	134	65.05
Text messaging	129	62.62
Telecommunication app	35	17.00
Other	5	2.43

Note. Other responses included communication via letter and social media. One student marked other and did not provide an alternative method of communication.

Table 8

Correlation Matrix for Study Variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Psychological support	-									
2. Degree support	.71**	-								
3. Academic support	.72**	.79**	-							
4. Role Model	.69**	.69**	.76**	-						
5. Perceived discrimination	-.01	-.07	-.11	-.08	-					
6. University perceptions	.32**	.32**	.38**	.31**	.26**	-				
7. Exploration	.13	.03	-.03	.01	.20*	. -.03	-			
8. Commitment	.27**	.15*	.12	.14*	.16*	.13	.67**	-		
9. College self-efficacy	.42**	.39**	.37**	.29**	-.09	.40**	.17*	.31**	-	
10. Persistence intentions	.16*	.11	.07	.03	-.03	.37**	.12	.26**	.24**	-

Note. * *p* < .05. ** *p* < .01. Variables 1-4 = mentoring subscales, 7-8 = ethnic identity subscales.

Measurement Model

Data analyses associated with model testing included several steps (Anderson & Gerbing, 1988; Weston & Gore, 2006). In the first step, I tested the measurement model using two CFAs to determine whether indicators loaded on latent factors as specified. The next steps included testing the hypothesized structural model and mediating effects of mentoring and ethnic identity. Models were estimated using Maximum Likelihood estimation (ML). Incremental and absolute fit indices were evaluated to determine model fit. Specifically, a chi-square test, comparative fit index (CFI), Tucker-Lewis index (TLI), the root mean square error of approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR) were examined to determine whether the structural and measurement models fit the data. Cutoff criteria for fit indices as described by Hu and Bentler (1999) were as follows: 1) Chi-square minimization is non-significant, 2) CFI is above or close to 0.95, 3) TLI is above or close to 0.95, 4) RMSEA below .08, 5) and SRMR below .06. Chi-square can be influenced by sample size, in that a larger sample size can result in non-significance (Weston & Gore, 2006). Hoelter's N indicates the largest sample size in which a non-significant chi-square could be found (Hoelter, 1983) and thus is used in reference to goodness of fit when applicable. Standardized coefficients were also examined to assess the strength and direction of the correlations between variables. I examined the squared multiple correlations (SMC) to assess the proportion of variance explained by each predictor on the variable in question.

I conducted a Confirmatory Factor Analysis to test the fit of the mentoring factors onto to the latent construct of mentoring for the full sample (N= 206; Figure 2). The mentoring variables consisted of the subscales derived from Crisp (2009). In addition, the

two discrimination-related items that I created for this study were included with the

Psychological and Emotional Support subscale. Fit indices suggested that the model of

Psychological and Emotional Support, Degree and Career Support, Academic Subject

Knowledge Support, and Presence of a Role Model was a good fit for the data χ^2 (2)=

3.55, $p > .05$; SRMR = .0113, RMSEA = .061, CFI = .997, TLI = .992. All parameters in
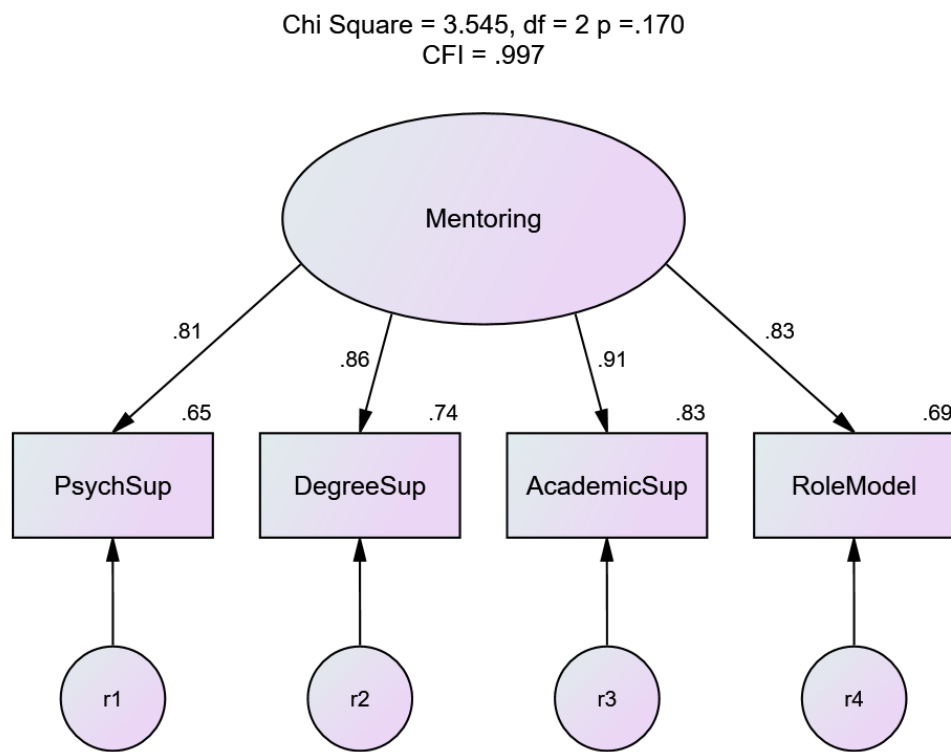
the model were significant ($p < .001$).

Chi Square = 3.545, df = 2 p =.170
CFI = .997

Figure 2. Confirmatory Factor Analysis of Mentoring subscales. PsychSupport = psychological and emotional support, DegreeSupport = degree and career support, AcadSupport = academic subject knowledge support, RoleModel = presents of a role model.

I performed a second CFA to examine the fit of manifest variables on two

respective latent constructs. The two latent constructs and their indicators were:

Mentoring (Psychological and Emotional Support, Degree and Career Support, Academic

Subject Knowledge Support, Presence of a Role Model), and Ethnic Identity

Development (Exploration, Commitment). The latent constructs were allowed to

correlate. Fit statistics suggested that the model demonstrated good fit for the data χ^2 (8)

= 16.94, $p < .05$; SRMR = .034, RMSEA = .074, CFI = .987, TLI = .976, Hoelter's N =

(.05 = 161; .01 = 188). Although Chi Square is significant, Hoelter's N suggests that this

may due to having a sample size greater than 189 participants (Hoelter, 1983).

Hypothesized Structural Model

The hypothesized structural model was tested using data from the full sample

(Figure 3, $N = 206$), and next, with data from only those pursuing a bachelor's degree

(Figure 4, $N = 182$), respectively. Gender and number of mentors were initially added

into the structural model as covariates due to their significant correlations with

persistence intentions and college self-efficacy, respectively. Gender did not significant

contribute to college self-efficacy or persistence intentions and was ultimately removed

from the model. The results of testing the structural model with data from the full sample

indicated that the model was a good fit to the data χ^2 (31) = 53.190, $p < .05$; SRMR =

.0471 RMSEA = .059, CFI = .974, TLI = .955. Although Chi Square was significant,

Hoelter's N suggests that this may be due to a sample size greater than 174 participants

(Hoelter, 1983). Standardized path coefficients suggested that perceptions of the

university had direct positive effects on mentoring ($\beta = .40$), college self-efficacy ($\beta =$

.26), and persistence intentions ($\beta = .37$). Perceived discrimination had a positive

relationship with ethnic identity development ($\beta = .25$) but, contrary to hypotheses, did

not have significant effects on other study variables. There were also significant positive

direct effects on paths from mentoring to college self-efficacy ($\beta = .28$), and from ethnic

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identity development to both college self-efficacy ($\beta = .21$) and persistence intentions ($\beta = .20$). Inconsistent with the hypothesis, college self-efficacy did not have a direct effect on persistence intentions. The model accounted for 32% of the variance in college self-efficacy and 20% of the variance in persistence intentions.
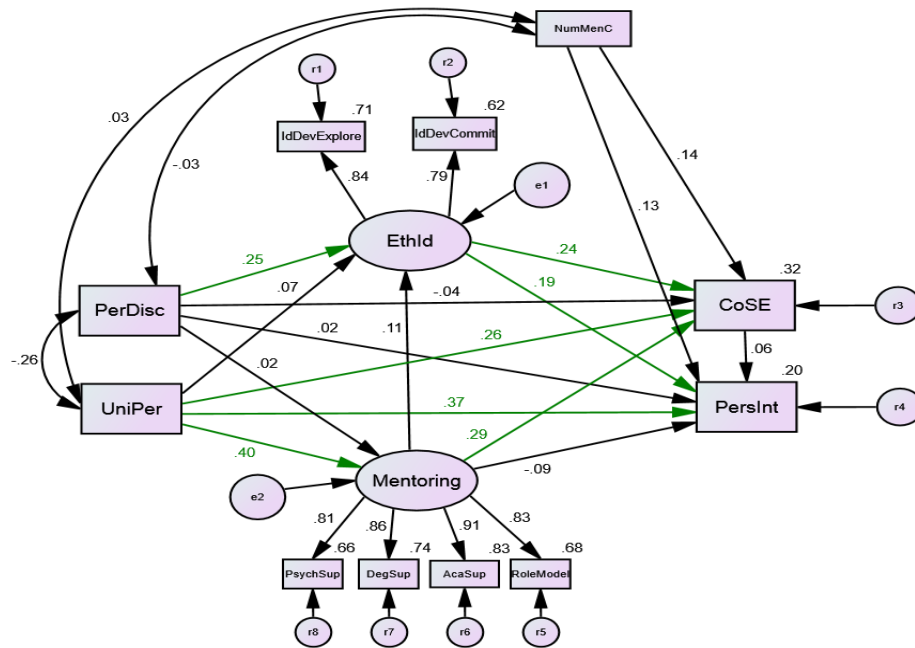

Figure 3. Final Structural Model of Full Sample (N = 206). Green represents significant relationships. PerDisc = perceived discrimination, UniPer = perceptions of the university, EthId = Ethnic Identity, PsychSup = psychological and emotional support, DegreeSup = degree and career support, AcademicSup = academic subject knowledge support, RoleModel = presents of a role model, CoSE = college self-efficacy, PersInt = persistence intentions. NumMenC = number of mentors. Paths from NumMenC to outcome variables are significant.

Table 9

Regression Coefficients, Standard Errors, t-values, and Significance Levels for Model

Paths (N = 206)

Parameter	b (β)	S.E.	t	p
Mentoring ← perceived discrimination	.021 (.02)	.082	.260	.80
Ethnic identity development ← perceived discrimination	.258 (.25)	.080	3.236	< .01
College self-efficacy ← perceived discrimination	-.038 (-.04)	.054	-.693	.49
Persistence Intentions ← perceived discrimination	.013 (.03)	.037	.367	.713
Mentoring ← university perceptions	.774 (.40)	.140	5.529	< .01
Ethnic identity development ← university perceptions	.115 (.07)	.143	.800	.42
College self-efficacy ← university perceptions	.366 (.26)	.094	3.903	< .01
Persistence Intentions ← university perceptions	.330 (.37)	.065	5.045	< .01
Ethnic identity development ← mentoring	.096 (.11)	.075	1.292	.196
College self-efficacy ← mentoring	.210 (.29)	.050	4.204	< .01
Persistence Intentions ← mentoring	- .041 (-.09)	.035	-1.173	.24
College self-efficacy ← ethnic identity development	.204 (.24)	.058	3.500	< .01
Persistence Intentions ← ethnic identity development	.102 (.19)	.041	2.479	.01
Persistence Intentions ← college self-efficacy	.036 (.06)	.049	.737	.46

Note. Standardized coefficients in parentheses.

In addition to testing the model with the full sample, I evaluated the fit of the model for the subsample consisting of only those currently pursuing their bachelor's degree ($n = 182$) as these students were the target population for this study. Goodness of fit statistics indicated that the model is a good fit for the data $\chi^2 (31) = 50.838$, $p < .05$, SRMR = .0496 RMSEA = .059, CFI = .974, TLI = .95. Although Chi Square was significant, Hoelter's N suggests that this may be due to a sample size greater than 161 participants (Hoelter, 1983). The standardized regression weights indicated that perceptions of the university had significant positive direct effects on mentoring ($\beta = .39$), college self-efficacy ($\beta = .28$), and persistence intentions ($\beta = .33$). Perceived discrimination had a significant direct effect on ethnic identity development ($\beta = .22$). Ethnic identity development had a significant direct relationship with college self-efficacy ($\beta = .23$) and with persistence intentions ($\beta = .19$). Mentoring was positively related to college self-efficacy ($\beta = .25$) and not significantly related to ethnic identity development. Similar to the full sample, college self-efficacy did not have a significant relationship with persistence intentions. The model accounted for 31% of the variance in college self-efficacy and 17% of the variance in persistence intentions. There were no differences with respect to significant or non-significant paths between the bachelor's degree seeking sample and the full sample.
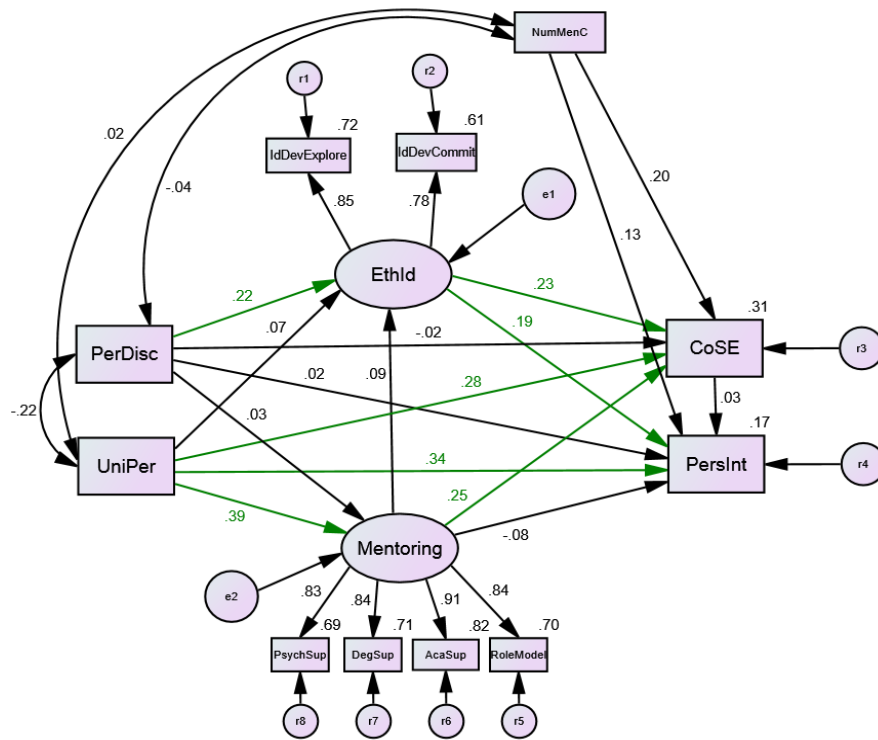
Figure 4. Final Structural Model of Students Pursuing a Bachelor's Degree (*N* = 182). Green represents significant relationships. PerDisc = perceived discrimination, UniPer = perceptions of the university, EthId = Ethnic Identity, PsychSup = psychological and emotional support, DegreeSup = degree and career support, AcadSup = academic subject knowledge support, RoleModel = presents of a role model, CoSE = college self-efficacy, PersInt = persistence intentions. NumMenC = number of mentors. Path from NumMenC to college self-efficacy is significant.

Indirect Effects

Indirect effects were examined to investigate the potential mediating roles of mentoring and ethnic identity. Parametric bootstrapping (Kline, 2016) was used to generate 5000 samples (Preacher & Hayes, 2008) to test whether indirect effects were significant by assessing a bias-corrected 95% confidence interval for indirect relations. I examined total indirect effects for the multiple mediators and the specific indirect effects of each mediator, first focusing on the outcome of college self-efficacy, and then on the outcome of persistence intentions.

Table 10

Regression Coefficients, Standard Errors, t-values, and Significance Levels for Model

Paths for Bachelors-Only subsample (N = 182)

Parameter	*b (β)*	S.E.	*t*	*p*
Mentoring ← perceived discrimination	.039 (.03)	.088	.449	.65
Ethnic identity development ← perceived discrimination	.223 (.22)	.083	2.689	< .01
College self-efficacy ← perceived discrimination	-.014 (-.02)	.055	-.262	.79
Persistence Intentions ← perceived discrimination	.011 (.02)	.038	.291	.77
Mentoring ← university perceptions	.784 (.39)	.155	5.063	< .01
Ethnic identity development ← university perceptions	.117 (.07)	.155	.758	.45
College self-efficacy ← university perceptions	.392 (.28)	.099	3.948	< .01
Persistence Intentions ← university perceptions	.303 (.34)	.071	4.273	< .01
Ethnic identity development ← mentoring	.074 (.09)	.077	.954	.34
College self-efficacy ← mentoring	.177 (.25)	.050	3.509	< .01
Persistence Intentions ← mentoring	-.040 (-.08)	.036	-1.116	.26
College self-efficacy ← ethnic identity development	.194 (.23)	.060	3.220	< .01
Persistence Intentions ← ethnic identity development	.101 (.19)	.043	2.347	< .05
Persistence Intentions ← college self-efficacy	.020 (.03)	.052	.378	.71

Note. Standardized coefficients in parentheses.

Results for the full sample indicated that total indirect effects of perceptions of the university on college self-efficacy were significant ([unstandardized] $p < .05$, [CI [.101 to .331]) through mentoring and ethnic identity. These results suggested that positive perceptions of the university had an impact on higher college self-efficacy through the combination of mentoring and ethnic identity. Inconsistent with the hypothesis, there was not an indirect relationship between perceptions of the university and persistence intentions through the mediating variables in the current sample ([unstandardized] $p > .05$, CI [-.065, .078]). Consistent with hypotheses, results indicated significant total indirect effects of perceived discrimination on college self-efficacy ([unstandardized] $p < 05$, CI [.006 to .126]) and on persistence intentions ([unstandardized] $p < .05$, CI [.002, .064]) through mentoring and ethnic identity. Mentoring did not have a significant indirect effect on college self-efficacy ([unstandardized] $p < .05$, CI [-.007, .066]) or persistence intentions ([unstandardized] $p < .05$, CI [-.007, .050]).

To better understand the findings from the full model, I assessed simple indirect relationships through mentoring and ethnic identity, separately. These results indicated that perceptions of the university had an indirect effect on college self-efficacy through mentoring ([unstandardized] $p < .05$, CI [.092, .286]). A significant direct effect of perceptions of the university on college self-efficacy suggests that mentoring served as a partial mediator in this relationship. This same indirect relationship was not present through ethnic identity. There was a significant indirect relationship from perceived discrimination to college self-efficacy ([unstandardized] $p < .05$, CI [.002, .115]) and to persistence intentions ([unstandardized] $p < .05$, CI [.007, .065]) through ethnic identity.

I also examined total and specific indirect effects of the variables of interest among the subsample of participants pursuing their bachelor's degree. Findings paralleled those of the full sample with one exception. Unlike in the full sample, perceived discrimination did not have a significant total indirect effect on intentions to persist through graduation ([unstandardized] $p = .053$, CI [.000, .060]) for Black college students. Other results mirrored those of the full sample. Total indirect effect results revealed that the indirect effect of perceptions of the university on college self-efficacy through mentoring and ethnic identity was significant ([unstandardized] $p < .05$, CI [.070, .301]). These results suggested that the Black students' perception of their universities on their belief about their ability to navigate college was present through stronger ethnic identity and higher experiences of mentoring supports. Perceptions of the university did not have a significant indirect effect on intentions to persist through college for this sample ([unstandardized] $p > .05$, CI [-.070, .075]). Perceived discrimination had a significant indirect effect on college self-efficacy ([unstandardized] $p < .05$, CI [.004, .116]). Mentoring did not have an indirect effect on college self-efficacy or persistence intentions through ethnic identity development.

I examined specific indirect effects within the model for those pursuing their bachelor's degree. Results were consistent with the specific indirect findings from the full model. There was a significant indirect relationship between perceptions of the university and college self-efficacy ([unstandardized] $p < .05$, CI [.050, .183]) through mentoring. This indirect relationship was not present through ethnic identity development. A significant direct relationship between perceptions of the university and college self-efficacy indicated that mentoring served as a partial mediator. There were significant

indirect effects of perceived discrimination on college self-efficacy ([unstandardized] $p <$

.05, CI [.012, .112]) and persistence intentions ([unstandardized] $p < .05$, CI [.005, .061])

through ethnic identity development.

Chapter IV

DISCUSSION

The discrepancy between graduation rates for Black college students and that of other groups highlights the need for continued research on factors that promote and act as barriers for Black students' academic development (Harper & Simmons, 2019). Results from the current study suggest that mentoring and ethnic identity may contribute to college self-efficacy and persistence intentions for Black college students. Findings include detailed descriptive information about mentoring relationships and highlight the goodness of fit of a model predicting college self-efficacy and persistence intentions among a sample of Black college students from throughout the United States. In this model, mentoring and ethnic identity served as mediators and predictors included perceived discrimination and perceptions of the university environment. The target population in this study was Black students currently pursuing a bachelor's degree and enrolled in a 4-year degree granting institution. Models and indirect effects were assessed for this subsample, as well as the full sample. Results of the model testing indicated mixed findings in relation to study hypotheses.

In this chapter, I discuss results in the context of current literature. I frame the discussion of these findings using Critical Race Theory and Social Cognitive Career Theory to highlight the context in which Black students exist and the relationships among study variables. First I focus on describing the mentoring experiences of Black college students, and then results of the model testing. Next, I discuss the implications of the results for research and practice, and then consider study strengths and limitations. I conclude with a summary of the study methods, results, and implications.

The only difference between model results of the full sample and the subsample was that perceived discrimination did not have a significant indirect effect on persistence intentions through ethnic identity and mentoring when assessing both variables together ($p =$ .053). Examination of specific indirect effects revealed that findings were similar between the full sample and subsample such that there was a significant indirect relationship between perceived discrimination and persistence intentions through ethnic identity. This suggests that the aforementioned difference between the full sample and subsample may be attributed to the reduction in sample size rather than a lack of relationship between the variables (Weston & Gore, 2006). As such, I discuss results as a whole, rather than focusing on each distinct sample.

Mentoring and Black College Students

The primary aim of this study was to better understand the mentoring experiences of Black college students. To explore and describe the sample with respect to mentoring, I conducted a variety of descriptive analyses. Means and standard deviations associated with the mentoring subscales (Table 2) suggest that students reported higher levels of psychological and emotional support as compared to the other three mentoring subscales. I assessed for differences across demographics and how these demographics were related to mentoring experiences for Black students (Table 4). Notably, students who lived on campus reported significantly stronger agreement with having someone in their lives that they viewed as a role model as compared those who lived alone off campus and those who lived off campus with roommates. Given their proximity to campus and university staff, Black students who live on campus may find themselves in positions to interact with university staff more often and may have more time to establish supportive

relationships, which may ultimately contribute to students' viewing these staff as role models. There were no differences in the other mentoring subscales for students living on or off campus.

The literature on the benefits of living on campus suggests mixed findings related to better retention and academic performance (Astin, 1984; Billings, 1989; Lopez Turley & Wodtke, 2010). In a sample of first year students from the National Postsecondary Student Aid Study, Lopez Turley & Wodtke (2010) assessed differences in academic performance between students living on campus and those living off campus across various types of institutions (public, private, liberal arts, community, research I and II, specialized). Findings included that students living on campus generally did not perform better academically, except for Black students, when compared to students living off campus. Black students who lived on campus earned higher GPAs than those who lived off campus with family. These findings suggest that there may be benefits for Black student who live on campus. One aspect of the literature about students who live on campus focuses specifically on those who participate in living learning communities. Living learning communities refer to programs in which students engage in coordinated academic classes and live together in a specific residence hall where they are provided with programming and services (Inkelas & Weisman, 2003). Pascarella, Terenzini, and Blimling (1994) found that students in living learning programs were more likely to persist, perform better academically, and interact with faculty as compared to students living on campus who were not in a living learning community. Inkelas and Weisman (2003) compared student experience across 3 different living learning programs (transition program for first year students, an honor programs, and a curriculum-based

programs aimed to expand students' social and cultural perspectives) to students not in a living learning community, but still on campus. Findings relevant to the current study include that students in the transition and honor programs were more likely to engage with faculty outside of class, and students in the curriculum based program were more likely to utilize study groups, compared to students not in a living learning community. While the present study does not discern between students in living learning communities and those who are not, this finding may help to explain the significant difference between those who live on campus and those who live off campus.

Natural mentors refer to supportive non-parental adults that students encounter in their everyday lives (Rhodes, Ebert, & Fischer, 1992). Several participants voluntarily included descriptive information about those who they considered mentors. Black students described family members, friends, and on-campus staff as mentors. There were no significant differences in mentoring supports between students who were in assigned mentoring relationships (e.g. through a mentoring program or in a research lab) and those who were not. There are several possibilities for these findings. This lack of difference may be due to the relatively smaller number of participants who were in research labs (n=16) or mentoring programs (n=50). Additionally, for students in research labs and mentoring programs, their responses were not necessarily limited to their experiences with mentors within their labs or programs. Their responses could be reflective of their mentoring experiences within and outside of the formal relationships. It is also possible that students who lack mentorship may be more likely to seek out formal programs, thus increasing their mentoring supports to the level of other students. Additionally, it is possible that the CSMS does not assess for the specific types of supports that students

receive from the formal programs. For example, perhaps students involved in research labs would have scored higher on a subscale focused specifically on research supports. Future research may consider examining the mentoring supports provided by formal programs and to compare these supports to those measured by the CSMS. Lastly, the cross sectional design does not account for increases in mentoring support over time. Thus it is possible that the benefits of engaging in mentoring programs and research labs may be exhibited over time, rather than when collected at a single occurrence.

I sought information about the number of sources from whom students received support. Most students reported receiving mentoring support from one, two, three, or four people. Black students who reported more mentors also reported more psychological and emotional support and more agreement that they had someone that thy considered a role model. This finding is consistent with research that has highlighted the benefits of multiple mentoring sources. For example, in a study that assessed the benefits of retaining natural mentors during the first year of college for a sample of college students (29% Black), Hurd, Tan, and Loeb (2016) found that a greater number of retained natural mentors were associated with improvements in grades through a reduction of depressive symptoms across the school year. This finding, along with findings from the present study are consistent with SCCT, such that students who have more people providing mentoring supports (e.g. encouragement) have more confidence in their ability to navigate college.

Mentoring Communication Methods

Crisp and colleagues (2017) highlighted the need for research to address how mentoring relationships are structured. One aspect of such structure is the mode of

communication used with mentors. I inquired about the methods students' used to interact with their supports. Although the majority of participants reported communicating in person, students also described communication via text message ($n = 129$) and telecommunication programs ($n = 35$). The majority of Black college students reported that they communicated with mentors via 4 methods – in person, individually, talking on the phone and via text. These results suggest that students utilize multiple sources of communication to participate in mentoring relationships. Variation in interaction methods may increase access to mentors and expand the ways in which mentoring relationships function. For example, communicating through text messaging or telecommunication software may provide quicker avenues to receive support and/or facilitate relational closeness, which has found to be an important aspect of mentoring (Hurd & Zimmerman, 2014; Rhodes, 2005). Indeed, Black students who indicated that they used more modes of communication to interact with their mentors also reported higher levels of psychological and emotional support. Though the cross sectional design does not allow for determining directional relationships, this finding suggests that greater access to mentors, through various channels of communication, may be an important component of experiencing psychological and emotional support. Results related to multiple methods of communication also have implications for mentoring relationships in which Black students are not able to meet in person with their mentors consistently. In these cases, students may be able to receive psychological and emotional support via phone or text messaging.

Mentoring Supports, Contextual Factors and Outcomes

I defined mentoring using Nora and Crisp's (2007) conceptual definition which suggests that mentorship is comprised of four components: psychological and emotion support, academic subject knowledge support, degree and career support, and presence of a role model. This is important because it allows measurement of specific components of mentoring relationships. By measuring mentoring as a latent variable, I was able to assess for the presence of each component in the experience of Black college students in the sample. Each type of mentoring support was positively correlated with perceptions of the university environment and with college self-efficacy. That is, Black college students in this sample who had more positive perceptions of the university environment reported higher levels of mentoring in each of the four domains and had higher confidence in their ability to navigate college. Although mentoring did not account for significant variance in persistence intentions in this study, psychological and emotional support was positively correlated with intentions to persist through graduation. This finding, along with higher means for psychological and emotional support, as compared to the other mentoring subscales, is consistent with literature that highlights the value of interpersonal support for Black college students (Brittain, Sy, & Stokes, 2009; Dahvig, 2010; Franklin, Debb, & Colson, 2017; Hurd & Zimmerman, 2014; Ishiyama, 2007). The inclusion of the other mentoring subscales may have obfuscated the effects of psychological and emotional support on persistence intentions for Black students in the study. That is, it is possible that using psychological and emotional support as the sole indicator of mentoring may have led to findings of mediation. Future research may consider assessing the unique impact of each of the mentoring domains on academic outcomes. Such research would

help assess whether, for example, mentors who provide academic support without psychological and emotional support are less effective in facilitating retention of Black college students.

Psychological and emotional support may be particularly important for Black students who are impacted by experiences of discrimination. Mentors may be able to empathize with, validate, and provide insight on the racial discrimination that Black students encounter. Receiving support for responding to these encounters can be encouraging for Black students as they progress through college. Mentors may be in a position to convey racial socialization messages as a method of responding to discrimination. Racial socialization refers to conversations about racial dynamics and racially specific emotion regulation and coping skills in response to discrimination (Anderson & Stevenson, 2019). In two items that I developed for this study and included in the psychological and emotional support subscale, I asked students whether they had someone in their life that they spoke to about their experiences of discrimination and whether they had someone who provided advice on how to cope with these encounters. As reported in the previous chapter, the majority of students in the current study indicated that they had at least one person in their life with whom they could discuss experiences of discrimination and how to respond to these encounters. Griffith, Hurd, and Hussain (2019) interviewed Black students and their mentors at a predominantly White college about their experiences of racial discrimination, how they coped with these encounters, and the role of natural mentors in helping students cope with these stressors. Results suggested that Black students did experience discrimination and coped with these experiences by processing with mentors and utilizing behavioral strategies. Mentors

helped Black students cope with discrimination by providing advice, validation, and connecting them with other helpful resources (Griffith et al, 2019). Mentoring that specifically includes support for discrimination experiences may be particularly important for Black college students.

Model Testing

The second major aim of this study was to explore the role of mentoring relative to college self-efficacy and persistence intentions, in the context of other key variables. Results of the model testing were largely consistent with the hypothesized relationships. Specifically, the structural model provided a good fit to the data for both the full sample of college students and the bachelors-degree pursuing subsample. The model accounted for 32% of the variance in college self-efficacy and 20% of the variance in persistence intentions in the full sample, and accounted for 31% of the variance in college self-efficacy and 17% of the variance in persistence intentions in the subsample. In spite of the good fit, there were a number of paths that were not significant, contrary to hypotheses. For example, there was not a direct relationship between college self-efficacy and persistence intentions, and further, college self-efficacy did not mediate the relationships between study variables and persistence intentions. In the following sections, I discuss findings first with respect to each of the two proposed mediating variables (mentoring and ethnic identity), and then consider direct relationships between the contextual variables and the outcomes of college self-efficacy and persistence intentions.

Mentoring and Indirect Effects

A main focus of this study was to understand the potential mediating role of mentoring in the relationships between independent and outcome variables. Mentorship did not mediate the relationship between perceived discrimination and either of the outcomes, college self-efficacy or persistence intentions, nor was there a direct relationship between mentoring and persistence intentions. These findings were surprising in light of previous research that has suggested positive effects of mentoring on academic outcomes (Collings, Swanson, & Watkins, 2014; Crisp et al., 2017; Kendricks et al., 2013; Tovar, 2014).

Lent, Brown, and Hackett (2000) described a model of concentric environmental influences in which a person is impacted by their immediate environment and the larger societal context. They suggest that although barriers and supports exist within both domains, individuals may differentiate between the existence of barriers and supports in society and how these factors impact their personal experience. For students in this study, their experiences of discrimination in society may be distinct from and have different consequences than their experiences of discrimination in college (Lent, Brown, & Hackett, 2000). This difference in the focus of measures may explain the lack of relationship between perceived discrimination and mentoring supports in the current study. The CSMS assesses for support within their immediate environment and in relation to their experiences in college, but the measure of discrimination (SEE; Malcarne, Chavira, Fernandez, & Liu, 2006) focused on their general perceptions and experiences rather than in the college environment.

Another discrepancy from expected findings was that mentoring support did not mediate the relationship between perceptions of the university and persistence intentions. Black college students in this study largely indicated strong intentions to persist in college through graduation. There was a positive bivariate correlation between psychological and emotional support and persistence intentions, suggesting that this type of support may be encouraging for Black students while navigating college. It may be the case that mentoring, or specifically psychological and emotion support, is related to persistence through variables not accounted for in the present study, such as psychological distress. Existing literature highlights the impact of perceived discrimination on psychological distress (Pieterse, Todd, Neville, & Carter, 2011). Previous mentoring literature indicates that mentoring may reduce the presence of depressive and anxiety symptoms and improve academic performance (Hurd et al., 2016; Hurd & Zimmerman, 2010). It is also possible that the relatively high persistence intentions of participants masked relationships among the variables. For Black college students in the current study, the combination of mentoring supports did not buffer the effects of discrimination and an unwelcoming campus environment on persistence intentions, but it is possible that psychological and emotional support specifically may have such an effect. Future research should consider the effects of psychological and emotional support in promoting persistence intentions of Black college students and seek samples earlier in their college experience (e.g. first year college students) who may have greater variability in persistence intentions.

As expected, there was an indirect relationship between perceptions of the university and college self-efficacy through mentorship. The degree to which Black

college students viewed their university as welcoming had a direct positive association with their perception of mentoring supports, which also had a positive direct effect on their belief about their ability to perform college-related tasks. Further, each mentoring subscale was positively correlated with college self-efficacy, suggesting that each domain may be important for Black college students. These findings are consistent with SCCT, such that mentors represent a proximal contextual factor that may influence Black students' college self-efficacy by providing psychological and emotional support (feedback and encouragement), academic subject knowledge, degree, and career support (skill development and goal identification contributing to performance accomplishments), and role modeling (vicarious learning) (Lent, Brown, & Hackett, 2000). Mentors may support Black students by serving as caring figures that challenge and push Black students (Griffin, 2013) while providing comfort and additional academic assistance (Brooms & Davis, 2017).

Effects of Ethnic Identity on Outcome Variables

Consistent with hypotheses, ethnic identity had positive direct effects on both college self-efficacy and persistence intentions. There was a significant positive path from perceived discrimination to ethnic identity development. These findings are consistent with existing literature that suggest that stronger ethnic identity may promote mental health, resilience, and self-esteem (Franklin-Jackson & Carter, 2007; McClain et al., 2016, Smith & Silva, 2011; Williams et al., 2012) and that experiences of perceived discrimination are associated with stronger identification with one's racial/ethnic group (Sellers & Shelton, 2003). Informed by CRT and literature suggesting ethnic identity is a protective factor for Black students, I included ethnic identity as a second potential

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mediator in the model. However, ethnic identity did not mediate the relationship between perceptions of the university and the outcome variables (college self-efficacy and persistence intentions). These findings may be best explained by the lack of relationship between perceptions of the university and ethnic identity. Gloria and Kurpius (1996) describe the University Environment Scale as a measure that assesses whether students view their universities as inviting and welcoming. Although the measure does include items that assessed the degree to which students' experience their universities as valuing of minority students and encouraging of ethnic groups, UES may not capture the degree to which students' feel accepted based on their specific racial/ethnic group membership. A measure that considers the role of race/ethnicity in students' perceptions of their universities may allow for better assessment of the relationship between these two constructs.

Consistent with hypotheses, indirect relationships from perceived discrimination to college self-efficacy and to persistence intentions were present through ethnic identity. More perceived discrimination was associated with stronger ethnic identity, which contributed to higher college self-efficacy and stronger intentions to persist in college through graduation. Results support the notion that ethnic identity may buffer the negative effects of discrimination. Given that the measure of perceived discrimination (SEE) measures perception of discrimination in society rather than within the school context, one might expect the impact of discrimination to be distal (Lent, Brown, and Hackett, 2000). This was borne out in the data as evidenced by a lack of direct relationship between perceived discrimination and the academic outcome variables. Shrout and Bolger (2002) suggest that if the relationship between variables is

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theoretically distal, as in the current study, a direct relationship may not be necessary to describe mediation effects. The presence of an indirect relationship of perceived discrimination on college self-efficacy and persistence intentions through ethnic identity suggests that the impact of perceived discrimination in society may serve as a distal factor that impacts the experience of Black college students in the study. This is consistent with CRT and the impact of distal factors suggested by SCCT.

Critical race theory and extant literature contends that ethnic identity is formed within a sociopolitical and historical context (Delgado & Stefancic, 2001; Parham & Helms, 1985). For Black college students, this context includes discrimination, which can serve as encounters that aid development of ethnic identity. In his Nigrescence Model of Black identity development, Cross (1991, 1995) suggested that individuals experience "encounters" or race-related events that move individuals into a period of exploration, in which one begins to view themselves as a racial and ethnic being. As these students begin to seek information and develop meaning and appreciation for their ethnic identity through interactions with mentors (Adams, 2014; Griffith, Hurd, & Hussain, 2019), they may begin to feel empowered. In a qualitative study that examined ethnic identity development among a sample of African American, Chicano/a, Filipino/a college students attending a predominantly White institution, Maramba and Velasquez (2012) found that students' ethnic identity was an important influence on their plans for continued education. Students in this same study reported that their ethnic identity had a significant positive impact on their confidence with navigating school, as evidenced by their improved grades, writing, and critical thinking skills as they became more

connected to their ethnic identities. For Black college students in the present study, ethnic identity may have a similar influence.

College Self-efficacy

Although mentorship and ethnic identity were the primary mediators of interest in this model, I also tested for indirect effects on persistence intentions through college self-efficacy. College self-efficacy was hypothesized to have a direct positive effect on persistence intentions, which was not consistent with findings in the model. College self-efficacy did not mediate the relationship between study variables and persistence intentions. Bivariate correlation results indicated, however, that there was a significant positive relationship between college self-efficacy and persistence intentions ($r = .24$). This suggests that although the variables may be related, college self-efficacy may not account for unique variance in persistence intentions. It is possible that students may be generally confident in their ability to complete college tasks and that other key factors, such as their perceptions of the campus as welcoming, influence their intentions to graduate. Findings may also be impacted by sample characteristics and response patterns.

The lack of effect of college self-efficacy on persistence intentions is inconsistent with SCCT, which assumes that self-efficacy predicts goal intentions (Lent, et al., 1994). The literature on underrepresented students and math/science self-efficacy may be helpful to understand current findings. In a sample of prospective first-generation college students, Garriott and colleagues (2013) found that math/science self-efficacy did not predict goals and interests. They suggest that a relatively lower standard deviation indicates a restricted range of scores on the variable, which could have limited the ability of self-efficacy to account for unique variance in goals. Garriott, Navarro, and Flores

(2017) indicate that students further along in their academic careers had high levels of self-efficacy and outcome expectations and this may have explained the lack of relationship between self-efficacy and outcome expectations to other variables in their study. Similarly, participants in the present study were highly efficacious ($M = 3.91$ $SD = .65$) and reported strong intentions to persist through graduation ($M = 3.51$ $SD = 0.41$). Restricted range on scores of may explain the lack of significant effect of college self-efficacy on persistence intentions (Salkind, 2010).

Contextual factors, College Self-efficacy and Persistence Intentions

Consistent with prior research and study hypotheses, perceptions of the university had a significant, direct relationship with college self-efficacy and persistence intentions. Black students' association with the university as a welcoming place was positively related to their confidence in successfully performing college –related tasks and their intentions to graduate from college. Inconsistent with the hypotheses, there was not a significant direct effect of perceived discrimination on intentions to persist in college or college self-efficacy. In the following paragraphs, I discuss perceptions of university and perceived discrimination as they relate to persistence intentions and college self-efficacy.

Perceptions of the University Environment

Overall participants reported generally positive perceptions of the university environment. As hypothesized, results of testing the structural model indicated that perceptions of the university environment were positively associated with college self-efficacy. Black college students who reported more positive perceptions of their university environment also reported higher college self-efficacy. This finding is consistent with evidence of a relationship between environmental context and self-

efficacy in academic domains (Bandura, 2000; Byars-Winston & Fouad, 2008; Byars-Winston et al., 2010; Deemer et al., 2017; & Jones, 2016). Responses to the University Environment Scale (UES) indicate that participants may generally perceive their campuses as welcoming, indicating that Black college students may have identified supports on campus and may feel valued. Given these experiences, students may be more likely to feel confident in their ability to perform college-related tasks such as talking with university faculty and/or staff. Consistent with SCCT, Black college students who view their campuses as welcoming may be aware of greater supports (e.g. helpful library staff and tutoring services).

Findings were also consistent with my hypothesis that there would be a significant direct path between perceptions of the university environment and persistence intentions. This is similar to previous research that has suggested that when students perceive the university as unwelcoming, they may be less likely to persist at that university (Gloria & Kurpius, 1996; Hurtado, Milem, Clayton-Pederson & Allen, 1999; Wei, Ku, & Liao, 2011). Though the cross-sectional design does not account for directional relationships among study variables, I offer suggestions in consideration of the literature on campus climate. These findings highlight the importance of fostering a welcoming environment for Black college students. Karkouti (2015) suggests that it is the role of student affairs practitioners to promote a welcoming campus environment by facilitating opportunities that expose students to new perspectives and the role of university. Ongoing assessment of campus climates is important to identify changes needed within the organizational structure (Hurtado et al., 1998) that would benefit student experiences. These assessments should be considered using a critical lens that understands that racial discrimination is

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embedded within the institutional context (Dumas & ross, 2016; Patton, 2016) and thus influences how Black college students perceive the campus environment, which can influence their intentions to graduate.

Perceived Discrimination

I hypothesized that students who reported higher scores of perceived discrimination would report lower college self-efficacy and fewer intentions to persist through college than those who reported lower scores of perceived discrimination. These relationships were not borne out in the data. Perceived discrimination did not have a significant direct relationship with college self-efficacy or persistence intentions in the model. This finding is inconsistent with literature that has suggested an inverse relationship between discrimination and psychological outcomes, such as self-esteem (Nadal et al., 2014; Seaton, Caldwell, Sellers, & Jackson, 2010; Solórzano et al., 2000; Umana-Taylor & Updegraff, 2006;Yosso et al., 2009). As noted, the Perceived Discrimination of the Scale of Ethnic Experience (Malcarne, Chavira, Fernandez, & Liu, 2006) assesses students' general perception and experiences of discrimination rather than their experiences of discrimination within the school context. Statements prompted students to indicate their perception of discrimination against their ethnic group in America and compared to other ethnic groups, and not specific encounters at their universities or as compared to their peers on campus. Additionally, Black students were asked to consider their own experiences of discrimination in society and not prompted to indicate experiences of discrimination perpetrated by faculty, staff, or other students on campus. The nature of the measure I selected may explain the lack of relationship

between perceived discrimination and college self-efficacy and persistence intentions in the structural model.

Findings from Griffith and colleagues (2019) suggest that Black students may work hard and persist through college as a way to cope with race-related stressors. It is clear that Black students in the current study perceived discrimination (ie, a mean score of 4.2 on a measure with a 1-5 range), though it was not related to their confidence in their ability to carry out the tasks associate with college, or to their intentions to persistence in college. Social cognitive career theory takes into account personal agency. That is, the impact of contextual barriers, such as discrimination, can depend on how students view barriers and how they respond to them (Lent, Brown, & Hackett, 2000). It is possible that for Black college students in this study, perceived discrimination was experienced as a commonplace phenomenon that may have colored their perceptions of the campus environment, but did not impact their beliefs about their ability to navigate college and intentions to graduate.

Consistent with the notion that students are impacted by their environment, there was a negative correlation between perceived discrimination experiences and students' perceptions of the university. Students who reported higher scores on the perceived discrimination scale were more likely to view their universities as less welcoming. Further, the statement "*the university seems to value minority students*" had the lowest mean score of the individual items on the university perceptions scale. This, along with mean scores on the discrimination measure, and the significant negative relationship between perceived discrimination and perceptions of the university, highlight the presence of perceived discrimination in the experiences of Black college students. This is

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consistent with previous research that has highlighted the negative association between perceived discrimination on Black college students' perception of the campus environment (Harper, 2011; Pieterse, Carter, Evans, & Walter, 2010).

Many Black students are able to persist through college despite experiencing discrimination (Brown, 2008; Gloria et al., 2008; Hughes et al., 2006; Neblett et al., 2008). The Black students in the present sample have remained in or returned to college after taking time off. Through this persistence, they may have developed better coping mechanisms for discrimination than their peers who left school without graduating. It is also possible that they have learned vicariously, through mentors, about discrimination experiences and how to cope with them. Students may recognize that these experiences are commonplace and thus may be less likely to be negatively impacted by perceived discrimination. Future research should include measures specifically assessing discrimination within the university context to better capture the impact of college-based discrimination on college self-efficacy and intentions to graduate, as well as the role of mentoring and ethnic identity in these relationships.

Research Implications

This study combines theoretical frameworks and considers a comprehensive definition of mentorship to understand the role of mentoring in the experiences of Black college students. Nora and Crisp's (2007) definition of mentoring was used to quantitatively assess mentoring relationships for a sample of Black college students in this study. Critical race theory and social cognitive career theory are used to frame the environments in which Black students exist on college campus and to understand the ways in which factors such as mentoring and ethnic identity development contribute to

self-efficacy and persistence intentions. Thus, study findings offer important implications for the existing literature.

The College Student Mentoring Scale (Crisp, 2009) was used to conceptualize and measure the mentoring relationships of African American/Black students and the influence of these relationships on academic persistence and college self-efficacy. Results of a confirmatory factor analysis suggested that the conceptual model consisting of psychological and emotional support, academic subject knowledge support, career and degree support, and presence of a role model was consistent with the data. This extends validity of the instrument in a new sample. Findings extend previous literature that established mentoring supports as positively influencing academic and social integration (Crisp, 2010) by highlighting a significant positive relationship between mentoring support and college self-efficacy. Psychological and emotional support, academic subject knowledge support, career and degree support and presence of a role model were each positively correlated with college self-efficacy. This finding suggests that supportive and encouraging relationships in which mentors provide academic and career guidance and offer insights may contribute to Black college students' confidence in their ability to accomplish college related tasks. Due to the non-directional nature of cross-sectional designs, it is important to consider that students who are confident in their ability to navigate college may be more likely to seek out mentoring guidance, or that a bi-directional relationship exists between the two variables.

As noted earlier, students used various methods to communicate with their mentors. Future studies should assess for differences in communication methods across relationships. For example, do students use different methods to communicate with on

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campus versus off campus mentors? Further, research should consider the impact of these mentoring aspects on college self-efficacy and persistence over time. SCCT considers the role of outcome expectations in students' vocational development. As such, research should consider the extent to which mentoring relationships help students to develop positive expectations about the benefits and outcomes of obtaining their college degree. Qualitative inquiry may be helpful in capturing the nuances in mentoring relationships that contribute to academic development for Black college students, as suggested by Griffith and colleagues (2019).

A noted limitation of the mentoring literature has been the lack of theoretical frameworks that guide variable selection and interpretation of findings. Social cognitive career theory was used to conceptualize how mentoring might influence college self-efficacy and intentions to persist in college, as well as to select variables for inclusion in the model. With the exception of perceived discrimination, study variables were significantly correlated with college self-efficacy in the expected directions. Results of a bivariate correlation indicated that college self-efficacy was positively related to persistence intentions ($r = .24$), highlighting a relationship between higher college self-efficacy and stronger intentions to persist through graduation. However, in the structural model college self-efficacy did not predict persistence intentions, which is inconsistent with SCCT. This lack of effect may in part be due to an older sample. I discuss this further in the limitations.

Implications for Practice

Practice implications are limited given the cross-sectional study design, however, findings from this research in the context of existing literature provide insights that

should be considered with efforts to improve to experiences for Black college students.

As research continues to highlight the under-enrollment of Black college students and the

inequities faced by these students (Harper & Simmons, 2019), administrations should

work to improve university conditions. Results from this study suggest that a welcoming

campus environment is associated with higher levels of mentoring supports, greater

college self-efficacy, and stronger persistence intentions. Enhancing the environmental

context in a way that considers the sociopolitical context of Black college students and

seeks to eliminate on campus barriers is consistent with critical race theory and social

cognitive career theory.

One way to improve university conditions is through the curriculum. Black

Studies courses can facilitate learning in that students can gain new awareness of

themselves and their identities through socialization. These courses have been found to

have a positive effect on the academic experiences of Black college students. In addition

to enhancing students' perception of the campus Black studies courses can enhance

students' ethnic identity, which in the present study had direct effects on Black college

students' college self-efficacy and intentions to persist through graduation. Adams (2005,

2014) described a "Black Studies Effect" in which students experience social,

psychological, and/or academic benefits after participating in Black Studies courses.

Interviews with Black students enrolled in Black Studies courses revealed that these

courses positively affected students' adjustment to college, identity development and

resilience (Adams, 2014). Chapman-Hilliard and colleagues (2016) found that students

who had been exposed to Black Studies courses had higher racial and ethnic identity

scores compared to students who had not been exposed to these courses. Further, these

courses can promote supportive environments and connect students with faculty and peer mentors. Black faculty may serve as role models and provide academic accountability (Chapman-Hilliard & Beasley, 2018). Maintaining Black/Ethnic Studies Departments can be one way that universities can enhance the experiences of Black college students.

Another way to promote a positive experience of the university, support ethnic identity development, and create space for supportive mentoring relationships, is through cultural programming targeting Black students and through supporting Black student organizations. In a mixed-methods study that utilized data from the Integrated Postsecondary Education Data System (IPEDS) database and informal, semi-structured interviews with Black male students from urban public universities, Strayhorn (2017) found that supportive relationships with faculty, staff, and peers were connected to student success. Programming such as Black Male Initiatives and Black Student Unions have the power to facilitate supportive and mentoring relationships, thus positively contributing to Black students' experiences and increasing student connectedness to the larger campus. For example, findings from Harper and Qauye (2007) suggest that membership in student organizations and participation in activities enhances students' Black identity development. Moreover, Williams and Chung (2013) found a positive relationship between students' Afrocentric orientation (ethnic and cultural identification) and their involvement in culturally relevant activities, suggesting that students involved in culturally relevant activities have a strong connection with their cultural orientation and related values. Campus administrators may consider culturally programming when looking to facilitate welcoming environments for Black college students. Fostering welcoming campus environments may also enable students to seek out multiple

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mentoring sources, which in the current study is associated with higher college self-efficacy and experiences of psychological and emotional support.

Additionally, findings offer implications for those who serve as mentors to Black college students. Given the negative relationship between perceived discrimination and perceptions of the university, and the relationship between perceptions of the university and college self-efficacy, mentors who consider the context in which Black college students exist may be able to enhance college experiences of these students. As discussed by Karkouti (2015), student affairs professionals, who are likely to serve as mentors, should strive to facilitate a welcoming campus environment that considers the unique experiences of Black students. In interviews with Black faculty members, Griffin (2013) found that Black faculty mentors' knowledge of the unique challenges of Black students guided their commitment to the success of Black students. Findings from Griffith and colleagues (2019) suggest that having mentors who provide advice on navigating racial discrimination may aid to their academic success. It is important to note, that the mentoring of Black college students is often disproportionally done by Black faculty and staff (Griffin, 2013). Mentors, no matter their racial/ethnic background, may best serve Black students when they attend to the specific experiences of Black college students.

Study Limitations and Future Research

Study findings should be considered in light of several limitations. First, I discuss the limitations associated with the sampling method and the sample of students who completed the surveys. Next I discuss limitations associated with the design and offer direction for future research.

As noted, 206 currently enrolled Black college students from across the country completed the survey for this study. These students were recruited via email listserves, social media, and snowball sampling. I targeted organizations and networks that serve African American/Black students. A limitation to this approach is the potential to privilege students who may already be connected to mentoring supports. Students who received invitations to complete these surveys are likely to be connected to an organization in some way and thus have more access to resources and mentoring relationships. This can leave out students who may not have these same supportive relationships. Given that the invitation stated that the survey could have taken between 20-25 minutes to complete, some students may not have had the time to complete or attempt the survey due to other responsibilities. Also, there may be other general differences in students that completed the surveys compared to those who did not, such as access to social capital, and campus resources. Additionally, 72% of respondents identified as female. More representation for men and those who identify as trans or non-binary would add to a more thorough understanding of the experiences of Black college students.

The outcome variables were college self-efficacy and persistence intentions. Given that the sample were currently enrolled in college, it is possible that the range for the outcome variables was restricted. Further, over 25% of participants were older than the age of 24 and over half of the participants were juniors or seniors. Students closer to obtaining a bachelor's degree may be less likely to leave school prior to graduation and thus may express stronger intentions to persist through graduation. These students may have developed confidence in their ability to navigate college earlier in their college

years. Given this potential for having developed this confidence over time, and that they have persisted through college thus far, they have performance accomplishments that would contribute to higher college self-efficacy. The restricted range of persistence intentions may also explain the lack of significant direct effect from mentoring supports. As previously noted, mentoring only had significant mediating effects for the relationship between perceptions of the university and college self-efficacy. In addition, future studies using the CSMS may want to test the effects of individual mentoring subscales on academic outcomes rather than testing the combined effects of mentoring supports.

I utilized a non-randomized, cross-sectional design to test the relationships between study variables. While this study design does provide associations and descriptive information about Black college students and mentoring, it does not allow for causal inferences. Although the hypothesized model used in this study was grounded in theory, it is not possible to infer causal relationships between mentoring and other study variables. It is also not possible to draw conclusions about the direction of relationships. For example, it is possible that Black students with higher college self-efficacy were more likely to seek out mentoring relationships, rather than mentoring relationships contributing to their belief about their ability to navigate college. Future studies of mentoring among Black college students should employ longitudinal methods. Longitudinal designs strengthen the ability to make causal and directional inference and also allow the investigation of the stability of effects over time (Preacher, 2015). In the current study, a longitudinal design would provide opportunity to measure college self-efficacy and persistence intentions over time, including through graduation, as most respondents reported strong intentions to graduate.

Based on these limitations as well as the findings of this study, I now summarize recommendations for future research. First, surveys in the current study were completed online. Future research should engage multi-method data collection that involves paper surveys when possible, in an effort to collect data from those who may be less likely to complete an online survey. Including qualitative inquiry in the form of focus groups or individual interviews allow for a better understanding of the nuances of mentoring relationships and how students view these relationships as contributing to their college self-efficacy and persistence intentions. Scholars should employ longitudinal research designs to understand these relationship dynamics over time. For example, it may be that there are key times during college in which mentorship plays a greater role in college self-efficacy, persistence intentions, or other academic outcomes. Longitudinal research would also allow better insight into the mentoring dynamics, such as which components may be more beneficial to students earlier in their college career compared to when they are closer to graduation. Future research should diversify the sample by obtaining more responses from male-identified, trans and gender non-binary students. Another way to expand the sample would be to collect data from students who are not Black as a way to compare experiences with mentorship. This study focused on the role of perceived racial discrimination and its relationship to mentorship and ethnic identity development. Scholars should also consider other forms of discrimination such as gender-based discrimination in conjunction with mentoring and ethnic identity development.

In an effort to reduce the length of the survey, I did not ask to whom students were referring when responding to questions about mentorship. This is a common complication within the mentoring literature. Hurd, Tan, and Loeb (2016) offer insight

into learning about students' mentors. In a study that investigated natural mentoring relationships and students' adjustment to college, they asked students how many adults they were referring to and to provide information about them, such as first name, the nature of relationship, and demographics. Future research should also consider how students acquire these mentors.

As mentioned earlier, perceived discrimination was not significantly correlated with college self-efficacy or persistence intentions. There are several potential explanations for this. One, the measure used to assess perceived discrimination did not explicitly account for discrimination that occurs within the educational system or on college campuses. Items asked about personal experiences and perceptions of discrimination within American society. Although this may capture the broad perceptions of discrimination for Black students, it may not fully consider their specific experiences in college. As noted by Lent, Brown and Hackett (2000), barriers are domain and context specific. Discrimination that occurs on a college campus could potentially have more of an impact on Black students' beliefs about their capacity to manage college-related responsibilities and graduate. Future research may consider using measures that assess for discrimination experiences within the school context.

Another possible reason for the lack of significant relationships between perceived discrimination and the outcome variables is coping efficacy. Coping efficacy refers to an individual's belief about their ability to navigate barriers, such as discrimination (Bandura, 1997). Although I was able to capture whether students were receiving support and recommendations for navigating experiences of discrimination, I did not assess for their own belief about their capacity to manage such encounters. It is

possible that students felt efficacious about navigating discrimination experiences, thus mitigating the relationship between these perceived discrimination and college self-efficacy and persistence intentions. Additionally, future research should consider the types of support offered through mentoring related to discrimination experiences. Griffith, Hurd, and Hussain (2019) provide a foundation for more research in this area. They found that mentors encouraged students to persist toward their goals despite experiences of discrimination, and to "think objectively" about their experiences.

Mentoring did not have a significant relationship to persistence intentions. As noted, one explanation for this may be that this sample used was highly motivated to persist through college. It is possible that mentoring is related to outcomes not assessed in the study that may have more of a direct relationship to persistence intentions. As such future research should consider the relationship between mentoring and academic achievement, persistence outcome expectations, and college satisfaction.

Strengths of the Study

This study has a number of important strengths and contributions. First, I was able to collect original data from over 200 Black college students enrolled in colleges throughout the United States. These students were diverse in socioeconomic status, ethnicity, age, and transfer status. Half of the students in this sample were first-generation college students, meaning that their parents did not have college degrees. As previously mentioned, missing values ranged from 0 to 2.4% and the MCAR assumption was tenable. The sample size and small amount of missing data allowed for complex data analysis, latent variable SEM. Gathering responses from diverse, Black students across the country contributes to the generalizability of study results.

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Two noted shortcomings of the mentoring literature have been the lack of a consistent definition and lack of theory explaining the role of mentoring in college student development (Crisp et al., 2017). This study utilized Nora and Crisp's (2007) definition to conceptualize mentoring as providing four components: 1) psychological and emotional support, 2) degree and career support, 3) academic subject knowledge support, and 4) the existence of a role model. Critical Race Theory and Social Cognitive Career Theory were selected to frame the context of the study, used to guide variable selection, and understand the role of mentoring and ethnic identity development in promoting college self-efficacy and persistence intentions. Additionally, this study contributes to the current body of literature by providing evidence in support of the validity of the College Student Mentoring Scale with a sample of Black college students and by exploring ways in which students communicated with their mentors. In considering the specific experiences of Black college students, two items of discrimination support were added to the CSMS. Results suggested that these items were a part of the mentoring experiences for students in the study. Further research is needed to discern whether these items should be always included with the use of the CSMS on Black college students. Study results contribute to the current literature on Black college students and mentoring, by highlighting the role of mentoring on college self-efficacy.

Conclusion

The graduation rate for Black college students continues to be below the national average in the United States. Experiences of discrimination and perception of the university environment impact the experiences of Black college students. This study contributes to existing literature on Black students by investigating the role of mentorship

and ethnic identity development and how these factors interact with discrimination, university perceptions, college self-efficacy, and intentions to persist through graduation. Results indicated that mentoring, as measured through psychological and emotional support, degree and career support, academic subject knowledge support, and presence of a role model, is positively associated with college self-efficacy for Black college students. Further, mentoring and ethnic identity partially mediated the relationship between perceptions of the university and college self-efficacy for students in sample. This suggests that mentoring and ethnic identity may serve as protective factors against the effects of unwelcoming campus environments and experiences of discrimination. Those who find themselves in mentoring roles should consider the context in which students are navigating college and offer to attend directly to their environment. Future research should explore college-related discrimination experiences, the relative contributions of different domains of mentoring support, and should assess additional outcomes such as academic achievement, persistence outcome expectations, and actual retention/graduation.

APPENDIX A

RECRUITMENT MATERIALS

Recruitment Email

Subject: RESEARCH PARTICIPATION REQUEST – Mentoring Black College Students

Hello!

My name is Derrick Bines and I am a current 5th year doctoral candidate in the Counseling Psychology program at the University of Oregon. I am currently recruiting participants for a research study for my dissertation. I am seeking to better understand the role of mentorship and other factors on the academic experiences of African American/Black college students. Completion of the survey takes approximately 20-25 minutes and requires one-time participation. Your answers will remain confidential.

At the end of the survey, you will be given the opportunity to enter your email address on a list that is not linked with your response to the survey for a chance to win 1 of 4 $25 visa gift cards.

Eligibility requirements for participation:

(a) Identify as African, African American or Black (including those who identify as Bi- or Multiracial)
(b) Be 18 years of age or older,
(c) Currently enrolled as a part- or full-time student at a 4-year degree granting university in the United States
(e) Completed at least one quarter or semester of college, and
(f) Be able to understand and read English at a minimum 8th grade reading level.

Participation in this study is strictly voluntary and participants may withdraw from the study at any time without penalty.

If you are aware of other individuals who meet the criteria for this study, please feel free to send this announcement to them.

Please click on the following link to view the informed consent document and to participate in the study:

LINK: https://oregon.qualtrics.com/jfe/form/SV_5v7XeFyobVzQ3L7

I greatly appreciate your assistance and support. Feel free to contact me (dbines@uoregon.edu) with any questions or concerns about the study and please share this with others. This study has been approved by the University of Oregon (Protocol #:

12122017.024).

Thank you,

Derrick Bines, M.S., Principal Investigator
dbines@uoregon.edu

Ellen Hawley McWhirter, PhD, Faculty Adviser
ellenmcw@uoregon.edu

Social Media Script

Hi! My name is Derrick Bines and I am 5th year doctoral candidate in Counseling Psychology at the University of Oregon. I am currently collecting data for my dissertation, which aims to better understand factors that influence the academic experiences of Black college students. To participate in this study, you must identify as African, African American and/or Black (including if you are Bi- or Multiracial), be at least 18 years old, and currently enrolled as a part- or full-time student at a 4-year degree granting university in the United States.

Completion of the survey takes approximately 20-25 minutes and requires one-time participation. I do not ask for your name and your answers will remain confidential. Participation in this study is strictly voluntary and you may withdraw from the study at any time without penalty.

At the end of the survey, you will be given the opportunity to enter your email address on a list that is not linked with your response to the survey for a chance to win 1 of 4 $25 visa gift cards.

If you are aware of other individuals who meet the criteria for this study, please feel free to send this announcement to them.

Please click on the following link to view the informed consent document and to participate in the study:

LINK: https://oregon.qualtrics.com/jfe/form/SV_5v7XeFyobVzQ3L7

I greatly appreciate your assistance and support. Feel free to contact me (dbines@uoregon.edu) with any questions or concerns about the study. This study has been approved by the University of Oregon (Protocol #: 12122017.024).

APPENDIX B

Informed Consent

You are invited to participate in a research study entitled:

Academic Persistence Among Black College Students

Study Purpose: My goal is to better understand factors that may contribute to the academic persistence of Black college students.

Compensation: At the end of the survey, you will be given the opportunity to enter your email address on a list that is not linked with your response to the survey. By providing your email address, you will be entered into a drawing for one of four $25 visa gift cards.

Eligibility:

You are eligible to participate in this study if you at least 18 years old, identify as African/African American/Black, are currently enrolled as a part- or full-time student at a 4-year degree granting university in the United States, and can understand and read English at a minimum 8th grade reading level.

Study Procedure: If you decide to participate, you will be asked to complete an online survey.

Survey Duration: 20-25 minutes

Risks and Benefits of Participation: The potential risks of participation are minimal and may include fatigue while participating as well as some discomfort when responding to questions about perceived discrimination and your academic experiences. Your responses will be anonymous. Although it is unlikely that you will benefit directly, your participation will help us better understand the unique experiences of Black/African American college students.

Confidentiality: You have a right to privacy, and all information will remain anonymous and confidential. Your answers on all questionnaires will be coded with numbers, and only the primary researcher will have access to this information. Any information obtained in connection with this research that can be identified with you (i.e., email address for gift card delivery) will remain confidential and will not be disclosed without your permission or as required by law. Email addresses will be stored separately from survey responses and only the primary researcher will have access to them. Email addresses will not be connected to or associated with survey responses in any way. The results of this study may be published in scientific journals or be presented at psychological meetings. No individual participants can or will be identified in any way.

Your participation is strictly voluntary, and you may withdraw from the study at any time without consequence. If you have any questions or concerns regarding this study, please contact the principal investigator, Derrick Bines, M.S., at dbines@uoregon.edu. Faculty advisor is Ellen Hawley McWhirter, Ph.D., ellenmcw@uoregon.edu.

If you have questions regarding your rights as a research subject, contact Research Compliance Services 677 E. 12th Avenue, Suite 500, Eugene, OR 97401 (541) 346-2510 Email: researchcompliance@uoregon.edu. All reports or correspondence will be kept confidential.

After reading the above information, do you agree to participate in this study?

I consent to take the survey

I do NOT consent to take the survey

DISSERTATION SURVEY

Demographic Questionnaire

1. Age_____

2. Gender
   ○ Male
   ○ Female
   ○ Transgender
   ○ Gender variant or gender non-conforming
   ○ Other _____
   ○ Prefer to not respond

3. Sexual Orientation
   ○ Straight
   ○ Bisexual
   ○ Gay
   ○ Queer
   ○ Lesbian
   ○ Other _____
   ○ Prefer to not respond

4. How old were you began living in the US?
   ○ I was born in the US.
   ○ Six years of age or younger.
   ○ Between age 7 and 17
   ○ After the age of 18

5. If not the U.S., what country were you born in?

   _____

6. Do you consider yourself African American/Black? (*Note: If you consider yourself to be Hispanic/Latinx, you may also consider yourself to be African African/Black.*)

☐ No, not African American or Black

☐ Yes, African-American of U.S. origin (born and grew up in the U.S.)

☐ Yes, African-American of African origin (born in an African country but now living the U.S.)

☐ Yes, African-American of Caribbean origin (born in one of the Caribbean Islands but now living the U.S.)

☐ Yes, African

☐ Yes, Caribbean

☐ Yes, Multiracial, including African American/Black

☐ Yes, Biracial, including African American/Black

☐ Yes, another African American or Black origin (Please describe)

_____

a) If you feel that more than one of the above options fits, please explain.

_____

7. In what state is your college or university located? (Please use the two-letter postal abbreviation)

_____

8. What college or university do you currently attend?

_____

9. Campus Student Body Diversity (Check all that apply):

☐ Mostly White

☐ Mostly students of color

☐ All students of color

☐ About half white and half students of color

☐ Historically Black College/University

☐ Hispanic Serving Institution

10. Where do you live?

○ On-campus housing

○ Off-campus housing, alone

○ Off-campus housing with roommates

○ Off-campus housing, with family

○ Other _____

11. Current Class Standing

○ Freshmen

○ Sophomore

○ Junior

○ Senior

○ Graduate Student

○ Law Student

○ Professional Student

○ Other _____

12. How many years have you been enrolled in college?

_____

13. Are you a first-generation college student? ("First generation" means that none of your parents or guardians graduated from college)

o Yes

o No

14. Are you a transfer student?

o Yes

o No

15. Who of the following graduated college? (Check all the apply.)

☐ Both parents/guardians attended college

☐ Other guardian attending college

☐ Mother/Female guardian attended college

☐ Father/Male guardian attended college

☐ None of the above

☐ Other, please specify _____

16. What degree are you currently working toward?

o Associates of Arts

o Bachelor's of Arts or Science

o Master of Arts, Master of Science, or other Master's

o J.D. (Law)

o M.D. (Medicine)

o Ph.D or Ed.D.

o Other _____

17. Cumulative college GPA (on a 4.0 scale):

○ Below a 1.0

○ 1.0 - 1.9

○ 2.0 - 2.5

○ 2.6 - 2.9

○ 3.0 - 3.5

○ 3.6 - 4.0

○ Above a 4.0

18. Have you been continuously enrolled since you began the degree program you are currently enrolled in?

○ Yes

○ No

If no, how many terms did you stop out of school?

_____

Please select the responses that best fit for you for each of the following statements or questions.

19. I am confident that I will complete the degree that I am currently working toward.

○ Strongly Disagree

○ Slightly Disagree

○ Disagree

○ Agree

○ Slightly Agree

○ Strongly Agree

20. How likely is it that you will graduate from your current university?

o Very Unlikely

o Somewhat Unlikely

o Unlikely

o Likely

o Somewhat Likely

o Very Likely

o Unsure

21. How likely is it that you will drop out of college before you complete your degree?

o Very Unlikely

o Somewhat Unlikely

o Unlikely

o Likely

o Somewhat Likely

o Very Likely

o Undecided

22. What is the highest academic degree you expect to earn?

o Associates of Arts

o Bachelor's of Arts or Science

o Master of Arts, Master of Science, or other Master's

o J.D. (Law)

o M.D. (Medicine)

o Ph.D or Ed.D.

o Other _____

23. Are you currently participating in a program that matches you with a faculty/staff/peer mentor?

o Yes

o No

If yes, what is the name of the program?

_____

24. Are you a current member of a research lab or research team?

o Yes

o No

25. How do you finance your education?

o Work Part-time

o Work Full-time

o Family

o Scholarship(s)

o Student Loans

o Personal Savings

o Other _____

26. How many hours of paid employment do you work per week?

o 0

o 1-5 hours

o 6-10 hours

o 11-15 hours

o 16-20 hours

o More than 20 hours

27. Which of these best describes your family's financial situation when you were growing up?

○ Very Stressful

○ Somewhat Stressful

○ Stressful

○ Not Stressful at all

College Student Mentoring Scale (CSMS; Crisp, 2009)

Please answer the following questions based on how closely they describe your experience in college so far.

When in college, I have had someone in my life who...

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
1. Recognizes my academic accomplishments	○	○	○	○	○
2. I can talk with openly about social issues related to being in college	○	○	○	○	○
3. Encourages me to use him or her as a sounding board to explore what I want	○	○	○	○	○
4. Gives me emotional support	○	○	○	○	○
5. I can talk with openly about personal issues related to being in college	○	○	○	○	○
6. Makes me feel that I belong in college	○	○	○	○	○
7. Expresses confidence in my ability to succeed academically	○	○	○	○	○
8. Encourages me to talk about problems I am having in my social life	○	○	○	○	○
9. Encourages me to consider educational opportunities beyond my current plans	○	○	○	○	○
10. Helps me realistically examine my degree or certificate options	○	○	○	○	○
11. Questions my assumptions by guiding me through a realistic appraisal of my skills	○	○	○	○	○
12. Helps me carefully examine my degree or certificate options	○	○	○	○	○
13. Discusses the implications of my degree choice	○	○	○	○	○
14. Helps me to consider the sacrifices associated with my chosen degree	○	○	○	○	○

15. Provides ongoing support about the work I do in my classes

    ○   ○   ○   ○   ○

16. Helps me perform to the best of my abilities in my classes

    ○   ○   ○   ○   ○

17. Helps me work toward achieving my academic aspirations

    ○   ○   ○   ○   ○

18. Provides practical suggestions for improving my academic performance

    ○   ○   ○   ○   ○

19. Encourages me to discuss problems I am having with my coursework

    ○   ○   ○   ○   ○

20. Shares personal examples of difficulties he or she has had to overcome to accomplish academic goals

    ○   ○   ○   ○   ○

21. Serves as a model for how to be successful in college

    ○   ○   ○   ○   ○

22. Sets a good example about how to relate to other people

    ○   ○   ○   ○   ○

23. I want to copy their behaviors as they relate to college-going

    ○   ○   ○   ○   ○

24. I look up to regarding college-related issues

    ○   ○   ○   ○   ○

25. I admire

    ○   ○   ○   ○   ○

26. Encourages me to discuss experiences of discrimination that I may face

    ○   ○   ○   ○   ○

27. Provides recommendations on how to handle experiences of discrimination that I may encounter

    ○   ○   ○   ○   ○

Please answer the following two questions about the person(s) you were considering when responding to the questions above.

28. When responding to the questions above, how many people were you thinking about?

_____

29. What methods do you use to communicate with this person(s)? Mark all that apply.

○ In-person, face-to-face

○ One on one

○ In a group setting

○ Via email

○ Speaking on the phone

○ Text messaging

○ Telecommunication app (e.g. Skype, Google Hangout, etc.)

○ Other (please specify):

_____

Perceived Discrimination subscale from the Scale of Ethnic Experience (SEE; Malcarne, Chavira, Fernandez, & Liu, 2006)

Please select the response that best reflects your level of agreement with each of the following statements

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
1. Generally speaking, my ethnic group is respected in America.	○	○	○	○	○
2. My ethnic group has been treated well in American society.	○	○	○	○	○
3. My ethnic group does not have the same opportunities as other ethnic groups.	○	○	○	○	○
4. I often have to defend my ethnic group from criticism by people outside of my ethnic group.	○	○	○	○	○
5. Discrimination against my ethnic group is not a problem in America.	○	○	○	○	○
6. My ethnic group is often criticized in this country.	○	○	○	○	○
7. In America, the opinions of people from my ethnic group are treated as less important than those of other ethnic groups.	○	○	○	○	○
8. In my life, I have experienced prejudice because of my ethnicity.	○	○	○	○	○
9. I have not felt prejudiced against in American society because of my ethnic background.	○	○	○	○	○

College Self-efficacy Inventory (Solberg, O'Brien, Villareal, Kennel, and Davis 1993)

Respond to the following statements based on how confident you are about completing each task described below.

	Not Confident at all	Not too Confident	Don't Know	Somewhat Confident	Very Confident
1. Research a term paper.	○	○	○	○	○
2. Write course papers.	○	○	○	○	○
3. Do well on your exams.	○	○	○	○	○
4. Take good class notes.	○	○	○	○	○
5. Keep up to date with your schoolwork.	○	○	○	○	○
6. Manage time effectively.	○	○	○	○	○
7. Understand your textbooks.	○	○	○	○	○
8. Participate in class discussion.	○	○	○	○	○
9. Ask a question in class.	○	○	○	○	○
10. Get a date when you want one.	○	○	○	○	○
11. Talk to your professors.	○	○	○	○	○
12. Talk to university staff.	○	○	○	○	○
13. Ask a professor a question.	○	○	○	○	○
14. Make new friends at college.	○	○	○	○	○
15. Join a student organization.	○	○	○	○	○

Student Intention Certainty Scale (SICS; Landry, 2003).

Please respond with the degree that you agree with each of the following statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. It is likely I will re-enroll at this college next semester.	○	○	○	○
2. I intend to obtain my college degree.	○	○	○	○
3. I am satisfied with the decision to obtain my college degree.	○	○	○	○
4. I am committed to obtain my college degree despite the many obstacles I am likely to face.	○	○	○	○
5. I frequently think about dropping out of college.	○	○	○	○
6. If I won the lottery today, I would quit college.	○	○	○	○
7. If I were offered a high-paying job today, I would quit college.	○	○	○	○
8. I am certain I will obtain my degree no matter what obstacles I may face.	○	○	○	○

University Environment Scale (UES; Gloria & Robinson Kurpius, 1996)

Indicate the extent to which you have experienced the feeling or situation in college.

	Strongly Disagree	Disagree	Agree	Strongly agree
1. Class sizes are so large that I feel like a number.	○	○	○	○
2. The library staff is willing to help me find materials/books.	○	○	○	○
3. University staff have been warm and friendly.	○	○	○	○
4. I do not feel valued as a student on campus.	○	○	○	○
5. Faculty have not been available to discuss my academic concerns.	○	○	○	○
6. Financial aid staff have been willing to help me with financial concerns.	○	○	○	○
7. The university encourages/sponsors ethnic groups on campus.	○	○	○	○
8. There are tutoring services available for me on campus.	○	○	○	○
9. The university seems to value minority students.	○	○	○	○
10. Faculty have been available for help outside of class.	○	○	○	○
11. The university seems like a cold, uncaring place to be.	○	○	○	○
12. Faculty have been available to help me make course choices.	○	○	○	○
13. I feel as if no one cares about me personally on this campus.	○	○	○	○
14. I feel comfortable in the university environment.	○	○	○	○

Multigroup Ethnic Identity Measure-revised (MEIM-R; Phinney & Ong, 2007)

Respond with the extent that each of following statements applies to you.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
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.	○	○	○	○	○

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